

ASSOCIATION OF BAY AREA GOVERNMENTS

ESTIMATES OF HOUSING NEEDS:

SAN FRANCISCO BAY AREA, 1970

Prepared and written by

Helen A. Manning and Don Codella
of the staff of the Association of Bay Area Governments



ESTIMATES OF HOUSING NEEDS:

SAN FRANCISCO BAY AREA, 1970

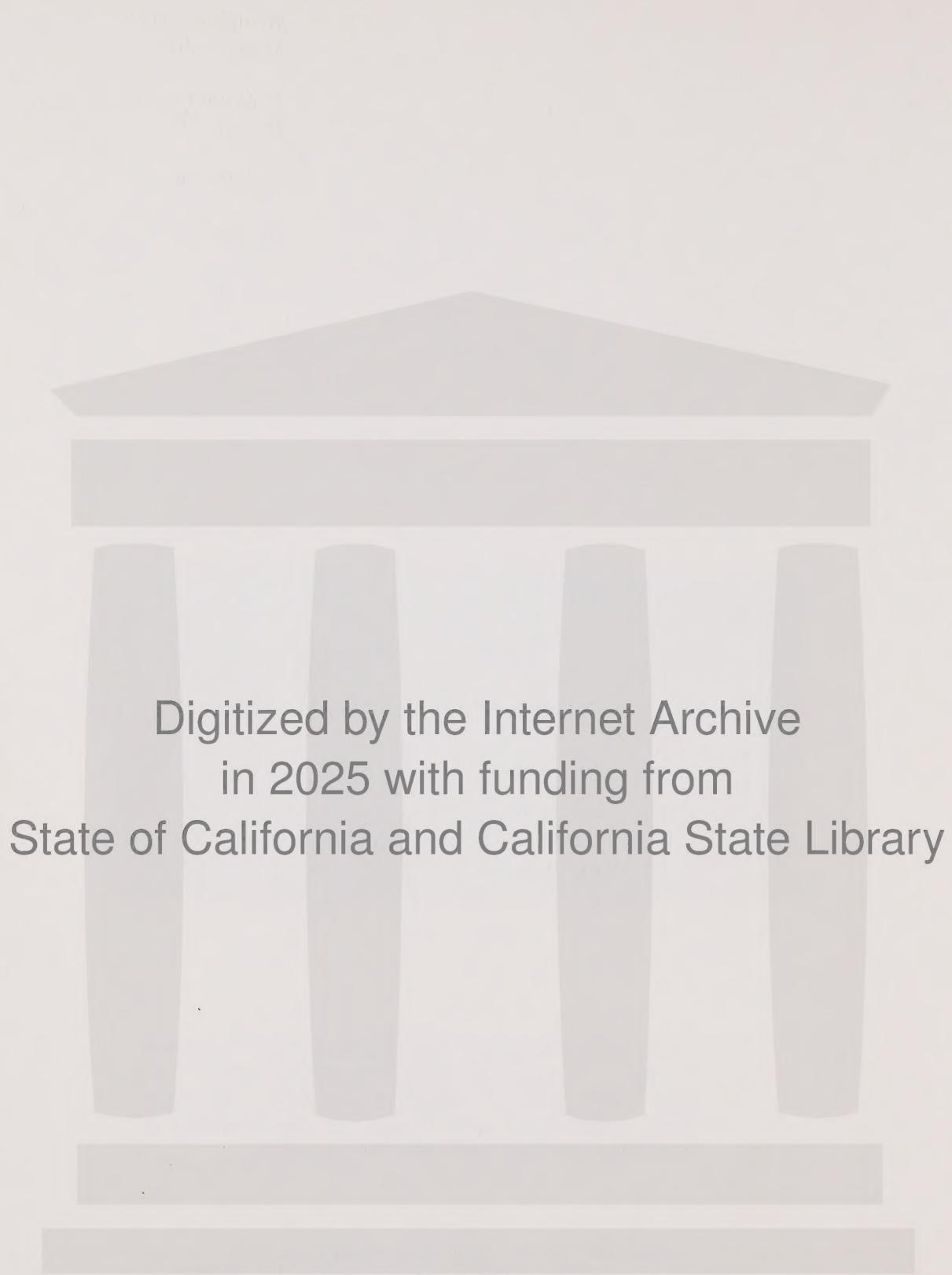
Prepared and written by

Helen A. Manning and Don Codella
of the staff of the Association of Bay Area Governments.

The preparation of this report was financed
in part through an urban planning grant from
the Department of Housing and Urban Develop-
ment, under the provisions of Section 701 of
the Housing Act of 1954 as amended.

Association of Bay Area Governments
Hotel Claremont, Berkeley, California 94705

October 1973



Digitized by the Internet Archive
in 2025 with funding from
State of California and California State Library

<https://archive.org/details/C124924539>

CONTENTS

<u>Chapter</u>		<u>Page</u>
I	Introduction	1
II	Estimate of the Number of Renter-Occupant Households in Need of Housing: San Francisco Bay Area, 1970	4
III	Estimate of the Number of Owner-Occupant Households in Need of Housing: San Francisco Bay Area, 1970	21
IV	Estimates of Additional Standard Housing Needed	39
V	Housing Needs Which Might Be Met with HUD Subsidies	46
Appendix A	Methodology	A-1
	Graphic Summary of Derivation of Tables 1-13	a-i

TABLES

<u>No.</u>		<u>Page</u>
1	Estimated Total Renter-Occupied Units, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	5
2	Estimated Renter-Occupied Units Lacking One or More Plumbing Facilities, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	7
3	Estimated Renter-Occupied Units with All Plumbing Facilities but with "Substandard" Heating Equipment, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	9
4	Estimated Renter-Occupied Units with 1.01 or More Persons per Room, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	12
5	Estimated Renter-Occupied Units Where Gross Rent is 25 Percent or More of Income, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	15
6	Estimated Total Renter-Occupant Households in Need of Housing, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	18
7	Estimated Total Owner-Occupied Units, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	23
8	Estimated Owner-Occupied Units Lacking One or More Plumbing Facilities, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	26
9	Estimated Owner-Occupied Units with All Plumbing Facilities but with "Substandard" Heating Equipment, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	29
10	Estimated Owner-Occupied Units with 1.01 or More Persons per Room, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	32
11	Estimated Total Owner-Occupant Households in Need of Housing, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	35
12	Estimated Additional Standard Rental Units Needed, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	40
13	Estimated Additional Standard Sale Units Needed, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	43
14	Estimated Potential Need for Low-Rent Public Housing or Sec. 236 Housing, by Monthly Gross Rent and Number of Bedrooms: San Francisco Bay Area, 1970	47
15	Estimated Potential Need for Sec. 235 Housing, by Value and Number of Bedrooms: San Francisco Bay Area, 1970	50

ESTIMATES OF HOUSING NEEDS: SAN FRANCISCO BAY AREA, 1970

1. INTRODUCTION

This report on housing needs in the nine-county San Francisco Bay Area was prepared as a preliminary step in preparation of the regional housing plan and the development of an equity system for the allocation of HUD-subsidized low- and moderate-income housing.

The estimates are based entirely upon data from the 1970 U. S. Census. The study is concerned only with the occupants of housing units;¹ it does not pertain to occupants of group quarters, hotels or "living arrangements for other than ordinary household life."²

The tables in the body of this report were constructed by aggregating the individual distributions for all of the nine counties in the region. The corresponding tables for the individual counties, with the exception of Tables 14 and 15, are given in Appendix B, bound separately.

The specific sources of the data and the procedures used to determine the distributions of each type of housing unit or household mentioned in calculating housing need are described in Appendix A.

Constraints

Although ABAG has embarked on development of a Regional Housing Information System capable of delivering current data on the characteristics of housing in the Bay Area, at present the Fourth Count tapes from the 1970 U. S. Census are the only feasible source of information which provides comparable statistics for each jurisdiction and census tract in the region.

The use of Census data poses a number of constraints which must be understood for a proper evaluation of this report:

- Since the 1970 Census did not inquire into the quality of the housing unit, the occurrence of physical substandardness must be inferred from other indicators.
- The housing data in the Census are based on samples. Both the percent in the sample and the size of the universe sampled (in this case, counties and cities or named unincorporated places with populations of 2,500 or more) affect the accuracy of the estimate, but

1. "There is a housing unit when the occupants live and eat separately from other persons in the structure and there is either (1) direct access from the outside or a common hall, or (2) . . . complete kitchen facilities for the occupants' exclusive use." (U. S. Department of Commerce, Bureau of the Census. 1970 Census Users' Guide, Part I, October, 1970, p. 113.)

2. Loc. cit.

the results are sufficiently precise for our purposes. All of the estimates from samples have been adjusted to 100 percent count totals.

- To protect the privacy of the individuals surveyed, the Census data are not available on a case-by-case basis; moreover, where the number of cases in the universe sampled is very small, the Census withholds the information. It has, therefore, been necessary to develop the statistics for this report by combining data from several cross-tabulations.

Procedures for Estimating Need

Because most households needing housing can be assumed to want to continue their present status as owners or renters and those desiring to change cannot be identified from the data, the entire analysis has been divided according to tenure and needs have been projected upon the basis of present occupancy status.

The analysis has been made for each county and city or named unincorporated place with a population of 2,500 or more as well as for the region as a whole. County totals are larger than the sums of their respective place tabulations because they include cities with populations less than 2,500 and the balance of their unincorporated areas.

Four criteria were used in identifying households needing housing:

- Living in physically substandard housing units,
- Overcrowded,
- Involuntarily "doubling",
- Overpaying (renter occupants only).²

To arrive at a statement of what standard units would be required to serve households identified as needing housing, it was necessary to translate the data on those which were "overcrowded" or "overpaying" from the rent- or value-size categories occupied to descriptions of what would be appropriate. Households in the "net physically substandard" group were assumed to need standard housing of the same rent or value and size as the units they occupied.

Next, the numbers and types of vacant standard units needed to maintain mobility and freedom of choice were calculated.

The need for additional standard housing in the San Francisco Bay Area, 1970, is estimated to have been the sum of the distributions of units required for households needing housing and to maintain adequate vacancy rates, less the distributions of "standard" units listed as "vacant-for-rent" or "vacant-for-sale" and units which would become available when "overcrowded" and "overpaying" occupants of "standard" units moved into appropriate quarters. Because the households identified as involuntarily "doubling" could not be described other

1. The data on individual localities are on file at the Association of Bay Area Governments.

2. See explanation in Appendix A, p. A-4.

-3-

than by average family size, their need could only be listed as a Lump sum in addition to the rent-size and value-size distributions required for other needs.

The figures in this report should not be interpreted as estimates of the need for new construction in the Bay Area. The data available do not permit, and this report does not make a judgment as to what proportion of the additional standard units needed should be new construction or the extent to which they could be supplied through rehabilitation of the units identified as "physically substandard."

It must be emphasized that with the exception of grand totals, all of the figures used in the following chapters and in Appendix B are estimates only.

II. ESTIMATE OF THE NUMBER OF RENTER-OCCUPANT
HOUSEHOLDS IN NEED OF HOUSING:
SAN FRANCISCO BAY AREA, 1970

The first table in this chapter indicates the estimated distribution of all renter-occupied units, by gross-rent range and number of bedrooms.¹ The figures in this table are used as the bases of the percentages shown in Tables 2 through 6, and 12.

The next four tables set forth the dimensions of the housing need in terms of the gross-rent range and number of bedrooms in the units occupied by renter households identified by each criterion of need:

- Households living in "physically substandard" housing units:²
 - Lacking one or more plumbing facilities,
 - With all plumbing facilities but with "substandard" heating equipment,
 - "Overcrowded" households (1.01 or more persons per room),
 - Households "overpaying" (25 percent or more of income for gross rent).

Following the distributions of households experiencing various types of housing need, Table 6 sets forth the aggregate of renter-occupant households needing housing, taking into account the possible overlap among the various categories of need. It was assumed that:

- Overcrowded units were likely to be physically substandard³, and
- Units where the gross rent was 25 percent or more of income were likely to be physically standard.⁴

Each of the six tables is followed by a brief narrative summarizing the distribution of cases contained therein. It must be emphasized that these are only estimates.

1. As indicated in Chapter I, with the exception of grand totals, all of these figures are estimates only.
2. The use of these two measures to estimate substandardness undoubtedly results in an under-count. There remain housing units with all plumbing facilities and "standard" heating equipment, which would be found upon inspection to have other deficiencies or to be in such a state of disrepair as to be considered sub-standard.
3. "Overcrowded" households were counted in the total need only to the extent that they exceeded the households in "physically substandard" units in a given rent-size category.
4. "Overpaying" households were counted in the total need up to, but not exceeding, the number of "physically standard" units.

TABLE 1.

ESTIMATED TOTAL RENTER-OCCUPIED UNITS,
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ¹	Number of Bedrooms					
	Total ²	0	1	2	3	4 or more
Paying cash rent:						
Less than \$40	5,035	3,361	1,255	322	97	0
\$40 - \$59	23,753	11,784	7,974	3,100	853	42
\$60 - \$79	47,505	14,033	20,331	9,656	2,965	520
\$80 - \$99	64,845	12,301	34,050	13,843	3,851	801
\$100 - \$149	237,956	24,635	113,847	78,640	18,071	2,764
\$150 - \$199	194,936	5,535	60,701	95,664	28,859	4,176
\$200 or more	98,432	1,958	13,705	39,080	33,668	10,021
Without payment of cash rent	21,343	1,524	4,201	7,170	6,409	2,038
One-family houses on a place of 10 acres or more	9,104	630	2,989	3,604	1,532	349
TOTAL ²	702,910	75,762	259,052	251,079	96,306	20,711

1. Gross rent is tabulated for all renter-occupied units except one-family houses on a place of 10 acres or more. No-cash-rent one-family houses must be on a place of less than 10 acres.

2. Because of rounding of numbers in inflating sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

Estimated Total Renter-Occupied Units
(Universe)

This table presents the distribution of all renter-occupied units, by gross-rent range and number of bedrooms. The figures in this table were used as the bases of the percentages shown in the corresponding cells of the next five tables and Table 12.

There were 702,910 renter-occupied units in the region. The median renter-occupied unit in the San Francisco Bay Area had 2 bedrooms. Among those units for which cash rent was paid, the median fell in the \$100 - \$149 range.

There were more 1- and 2-bedroom units than any other sizes (36.8 percent and 35.7 percent of the total, respectively). Four-or-more-bedroom units were in shortest supply (3.0 percent).

Among the rent categories, the largest numbers were in the \$100 - \$149 rent range (33.8 percent of the total; 35.4 percent of those for which cash rent was paid) and the \$150 - \$199 rent range (27.7 percent of the total; 29.0 percent of those for which cash rent was paid).

The median unit in the Less than \$40 rent range had 0 bedrooms. There were no 4-or-more-bedroom units in this rent class. In the rent ranges between \$40 and \$149, the median units had 1 bedroom. For all other categories, the median unit had 2 bedrooms.

Among the units for which cash rent was paid, the median rent range increased with unit size:

0 bedroom	\$80 - \$99
1 bedroom	\$100 - \$149
2 bedrooms	\$150 - \$199
3 bedrooms	\$150 - \$199
4 or more bedrooms	\$200 or more

Only 7.4 percent of the units with 4 or more bedrooms paying cash rents paid less than \$100, and none of these was less than \$40.

Among the individual rent-size categories, the largest percentage of units was 1-bedroom units renting at \$100 - \$149 (16.2 percent of all units). Next in order were 2-bedroom units at \$150 - \$199 (13.6 percent) and \$100 - \$149 (11.2 percent).

In conclusion, this table provides some indication of those segments of the rental housing market where the supply was severely limited--regardless of quality. Not surprisingly, these were among the larger units and the lower rent ranges.

TABLE 2.

ESTIMATED RENTER-OCCUPIED UNITS LACKING ONE OR MORE PLUMBING FACILITIES,¹
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ²	Number of Bedrooms											
	TOTAL ³		0		1		2		3		4 or more	
	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴
Paying cash rent												
Less than \$40	3,470	68.9	2,704	80.5	573	45.6	128	39.7	49	50.3	176	...
\$40 - \$59	11,270	47.4	8,866	74.7	1,856	23.3	401	12.9	153	18.0	546	129.7
\$60 - \$79	9,089	19.1	7,089	50.5	1,480	7.3	349	3.6	124	4.2	46	8.9
\$80 - \$99	2,838	4.4	2,120	17.2	520	1.5	137	1.0	47	1.2	14	1.6
\$100 - \$149	2,187	0.9	1,569	6.4	433	0.4	134	0.2	42	0.2	10	0.4
\$150 - \$199	910	0.5	657	11.9	172	0.3	60	0.1	17	0.1	4	0.1
\$200 or more	478	0.5	328	16.8	108	0.8	30	0.1	9	...	2	...
Without payment of cash rent	907	4.3	627	41.2	209	5.0	52	0.7	16	0.2	3	0.2
One-family houses on a place of 10 acres or more	265	2.9	167	26.6	71	2.4	21	0.6	5	0.3	1	0.2
TOTAL ³	31,415	4.5	24,066	31.8	5,423	2.1	1,312	0.5	463	0.5	152	0.7

1. Hot piped water, flush toilet for this household only, bathtub or shower for this household only.

2. Gross rent is tabulated for all renter-occupied units except one-family houses on a place of 10 acres or more.

No-cash-rent one-family houses must be on a place of less than 10 acres.

3. Because of rounding of numbers in inflating sample & %, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

4. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 1).

5. ... signifies more than 0 but less than 0.1 percent.

6. See p. 8 for explanation of discrepancies between figures in this table and those in the universe matrix.

Estimated Renter-Occupied Units Lacking One or More Plumbing Facilities

All housing units lacking one or more plumbing facilities (hot piped water, flush toilet for this household only, bathtub or shower for this household only) were classed as "physically substandard."

It is important to note that, because of the problems involved in developing this table, less reliance can be placed on the figures for individual rent-size categories than on the row and column totals. In a few instances, because of the procedures used (see Appendix, p. A-2), more cases are shown than appear in the corresponding cell of the universe matrix (Table 1). These cases are eliminated in the estimate of total households in need of housing (Table 6).

There were 31,415 renter-occupied units in the San Francisco Bay Area which lacked one or more plumbing facilities. These represented 4.5 percent of all renter-occupied units in the region.

In terms of absolute numbers, the housing units lacking one or more plumbing facilities were concentrated in the 0-bedroom size and the \$40 - \$59 rent range. These represented 76.6 percent and 35.9 percent, respectively, of all units with this deficiency.

Much smaller proportions of the total units deficient were found among the larger units, and these declined with size:

0 bedroom	76.6 percent
1 bedroom	17.3 percent
2 bedrooms	4.2 percent
3 bedrooms	1.5 percent
4 or more bedrooms	0.5 percent

Above the \$40 - \$59 range (35.9 percent of all units lacking one or more plumbing facilities), the proportions decreased as the cash rent range increased:

Less than \$40	11.0 percent
\$40 - \$59	35.9 percent
\$60 - \$79	28.9 percent
\$80 - \$99	9.0 percent
\$100 - \$149	7.0 percent
\$150 - \$199	2.9 percent
\$200 or more	1.5 percent

Units without payment of cash rent represented only 2.9 percent of all units lacking one or more plumbing facilities, and one-family houses on a place of 10 acres or more, only 0.8 percent.

In general, these proportions reflect the relative intensity of the problem in each size and rent category in the universe. The highest percentages were in the 0-bedroom (31.8 percent of all units this size) and Less than \$40 rent range (68.9 percent of all units in this rent range). The proportion decreased by size, with the exception of a slight rise for units with 4 or more bedrooms. Similarly, the proportions decreased by rent range among those paying cash rent and were small for those without payment of cash rent and for one-family houses on a place of 10 acres or more.

TABLE 3.

ESTIMATED RENTER-OCCUPIED UNITS WITH ALL PLUMBING FACILITIES BUT WITH "SUBSTANDARD" HEATING EQUIPMENT,¹
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ²	TOTAL ³		Number of Bedrooms									
			0		1		2		3		4 or more	
	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴
Paying cash rent												
Less than \$40	253	5.0	111	3.3	103	8.2	31	9.6	9	9.3	0	--
\$40 - \$59	1,914	8.1	473	4.0	910	11.4	424	13.7	108	12.7	0	0.0
\$60 - \$79	5,875	12.4	1,083	7.7	2,905	14.3	1,395	14.4	416	14.0	76	14.6
\$80 - \$99	9,001	13.9	1,058	8.6	5,190	15.2	2,062	14.9	585	15.2	108	13.5
\$100 - \$149	23,986	10.1	0	0.0	9,157	8.4	11,435	14.5	2,615	14.5	419	15.1
\$150 - \$199	3,326	1.7	0	0.0	0	0.0	1,500	1.6	1,305	4.5	521	12.5
\$200 or more	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Without payment of cash rent	--		--		--		--		--		--	
One-family houses on a place of 10 acres or more	--		--		--		--		--		--	
TOTAL ³	44,356	6.3	2,724	3.6	18,625	7.2	16,846	6.7	5,038	5.2	1,123	5.4

1. Room heaters without flue; fireplaces; stoves or portable room heaters; not heated.

2. Gross rent is tabulated for all renter-occupied units except one-family houses on a place of 10 acres or more.

No-cash-rent one-family houses must be on a place of less than 10 acres.

3. Because of rounding of numbers in inflating sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

4. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 1).

Estimated Renter-Occupied Units with All Plumbing Facilities
but with "Substandard" Heating Equipment

All housing units with "substandard" heating equipment (room heaters without flue; fireplaces; stoves or portable room heaters; not heated) were classed as "physically substandard." Since those units which had "substandard" heating equipment and also lacked one or more plumbing facilities had already been counted in Table 2, Table 3 includes only those units which had all plumbing facilities but lacked "standard" heating equipment.

The distribution of cases by rent-size categories reflects the assumptions which were made in developing this table:

- Units with all plumbing facilities but with "substandard" heating equipment would rent for less than the median figure for all units of their size, and
- The units with this deficiency would be distributed evenly among the rent categories below the universe median for each size.

Because of the assumption about below-median rents, it was impossible to allocate any cases to the categories "Without payment of cash rent" and "One-family houses on a place of 10 acres or more" (where the Census does not provide data on rents paid). As a result, there is probably a slight over-count in the "Paying cash rent" categories.

There were 44,356 renter-occupied units in the San Francisco Bay Area which had all plumbing facilities but had "substandard" heating equipment. This was 6.3 percent of all renter-occupied units in the region.

Over two-fifths (42.0 percent) of all the units of this type were 1-bedroom units; there were nearly as many 2-bedroom units (38.0 percent). The proportions for the larger sizes decreased as the numbers of bedrooms increased:

0 bedroom	6.1 percent
1 bedroom	42.0 percent
2 bedrooms	38.0 percent
3 bedrooms	11.4 percent
4 or more bedrooms	2.5 percent

Over half of the cases (54.1 percent) occurred in the \$100 - \$149 rent range. The proportions in the other ranges declined as they departed from this category:

Less than \$40	0.6 percent
\$40 - \$59	4.3 percent
\$60 - \$79	13.2 percent
\$80 - \$99	20.3 percent
\$100 - \$149	54.1 percent
\$150 - \$199	7.5 percent
\$200 or more	0.0 percent

Nearly half (47.3 percent) of all the units with all plumbing facilities but with "substandard" heating equipment were 1- and 2-bedroom units in the \$100 - \$149 rent range (20.6 percent and 25.8 percent, respectively).

Within the universe of renter-occupied units, the rate of incidence of "substandard" heating equipment in units with all plumbing facilities was lowest in 0-bedroom units and highest in 1-bedroom units and tended to decrease thereafter as unit size increased. In terms of rent range, the rate tended to increase with gross rent up through \$80 - \$99 and decreased sharply above \$100 - \$149. This reflected the assumption about the units' renting for less than the median for their size.

TABLE 4.
ESTIMATED RENTER-OCCUPIED UNITS WITH 1.01 OR MORE PERSONS PER ROOM,
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ¹	Number of Bedrooms											
	TOTAL ²		0		1		2		3		4 or more	
	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³
Paying cash rent												
Less than \$40	379	7.5	250	7.4	98	7.8	23	7.2	8	7.9	0	-
\$40 - \$59	1,805	7.6	889	7.5	616	7.7	234	7.6	63	7.4	3	7.5
\$60 - \$79	3,638	7.7	1,048	7.5	1,564	7.7	757	7.8	229	7.7	40	7.6
\$80 - \$99	4,981	7.7	919	7.5	2,606	7.7	1,092	7.9	301	7.8	63	7.8
\$100 - \$149	17,978	7.6	1,800	7.3	8,455	7.4	6,103	7.8	1,402	7.8	217	7.9
\$150 - \$199	14,444	7.4	401	7.2	4,396	7.2	7,112	7.4	2,211	7.7	322	7.7
\$200 or more	7,118	7.2	147	7.5	968	7.1	2,734	7.1	2,473	7.3	747	7.4
Without payment of cash rent	1,629	7.6	116	7.6	315	7.5	550	7.7	496	7.7	152	7.4
One-family houses on a place of 10 acres or more	732	8.0	49	7.8	236	7.9	293	8.1	125	8.2	29	8.2
TOTAL ²	52,702	7.5	5,619	7.4	19,254	7.4	18,949	7.5	7,307	7.6	1,572	7.6

1. Gross rent is tabulated for all renter occupied units except one-family houses on a place of 10 acres or more. No-cash-rent one-family houses must be on a place of less than 10 acres.

2. Because of rounding of numbers in inflating sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

3. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 1).

Estimated Renter-Occupied Units
with 1.01 or More Persons per Room

All households in units with 1.01 or more persons per room were classed as "overcrowded."

In developing this table, it was assumed that units with 1.01 or more persons per room were distributed evenly throughout the rent-size categories in the universe. The rent-size distribution of the "overcrowded" units is a reflection of the variations in rates of "overcrowding" and in rent-size distributions of all renter-occupied units in the nine Bay Area counties.

There were 52,702 renter-occupied units in the San Francisco Bay Area which had 1.01 or more persons per room. These represented 7.5 percent of all renter-occupied units in the region.

Approximately three-fourths (72.5 percent) of all the "overcrowded" units were 1-bedroom and 2-bedroom units (36.5 percent and 36.0 percent, respectively). The proportions for the other sizes were considerably smaller:

0 bedroom	10.7 percent
1 bedroom	36.5 percent
2 bedrooms	36.0 percent
3 bedrooms	13.9 percent
4 or more bedrooms	3.0 percent

Over one-third (34.1 percent) of the "overcrowded" units rented in the \$100 - \$149 range and more than one-fourth (27.4 percent) rented for \$150 - \$199. The proportion of the total "overcrowded" units in each rent range increased with the amount of rent through \$100 - \$149 and then declined:

Less than \$40	0.7 percent
\$40 - \$59	3.4 percent
\$60 - \$79	6.9 percent
\$80 - \$99	9.4 percent
\$100 - \$149	34.1 percent
\$150 - \$199	27.4 percent
\$200 or more	13.5 percent

Only 3.1 percent of the units which had 1.01 or more persons per room were units without payment of cash rent and 1.4 percent, one-family houses on a place of 10 acres or more.

The largest numbers of "overcrowded" units by rent-size were: 1-bedroom units renting for \$100 - \$149 (16.0 percent of all households with this need) and 2-bedroom units renting for \$150 - \$199 (13.5 percent) and \$100 - \$149 (11.6 percent)

As the table indicates, approximately 7.5 percent of all renter-occupied units in the San Francisco Bay Area had 1.01 or more persons per room. Because of county variations in rates of "overcrowding" and in rent-size distributions, the incidence of "overcrowding" in the region ranged from 7.1 percent in 1- and 2-bedroom units renting for \$200 or more to 8.2 percent of all 3- and 4-or-more-bedroom one-family houses on places of 10 acres or more.

TABLE 5.

ESTIMATED RENTER-OCCUPIED UNITS WHERE GROSS RENT IS 25 PERCENT OR MORE OF INCOME,
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ¹	TOTAL ²		Number of Bedrooms									
			0		1		2		3		4 or more	
	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³
Paying cash rent												
Less than \$40	1,258	25.0	856	25.5	306	24.4	77	24.0	18	19.0	0	0.0
\$40 - \$59	10,514	44.3	5,215	44.3	3,543	44.4	1,362	44.0	375	43.9	18	43.9
\$60 - \$79	23,176	48.8	6,932	49.4	9,913	48.8	4,637	48.0	1,439	48.5	255	48.0
\$80 - \$99	30,188	46.6	5,697	46.3	15,871	46.6	6,453	46.6	1,802	46.8	366	45.6
\$100 - \$149	106,995	45.0	11,341	46.0	51,444	45.2	34,914	44.4	8,057	44.6	1,239	44.8
\$150 - \$199	88,581	45.4	2,615	47.2	27,940	46.0	43,178	45.1	12,943	44.8	1,906	45.6
\$200 or more	49,833	50.6	1,025	52.3	7,048	51.4	19,842	50.8	16,871	50.1	5,047	50.4
Without payment of cash rent	--	--	--	--	--	--	--	--	--	--	--	--
One-family houses on a place of 10 acres or more	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL ²	310,545	44.2	33,682	44.5	116,065	44.8	110,464	44.0	41,504	43.1	8,831	42.6

1. Gross rent is tabulated for all renter-occupied units except one-family houses on a place of 10 acres or more. No-cash-rent one-family houses must be on a place of less than 10 acres.

2. Because of rounding of numbers in inflating sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

3. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 1).

Estimated Renter-Occupied Units Where
Gross Rent Is 25 Percent or More of Income

To measure "overpaying," the Brooke amendment establishing a maximum of 25 percent of adjusted income for low-rent public housing rents was deemed the most appropriate guide for this analysis. The nearest approximation to this in the Census is Gross Rent as Percentage of Income, counting 25 percent or more as overpaying. This results in a slight under-count because the percentage is based on total rather than adjusted income.

It should also be noted that: (1) the problem of "overpaying" does not apply to households not paying cash rent and (2) the Census does not provide data on rents paid by households in one-family houses on a place of 10 acres or more. Therefore, no figures are given for these two categories. As a result, the incidence of "overpaying" is slightly underestimated.

It was assumed that the households "overpaying" were distributed evenly throughout the unit sizes in a given rent range.

There were 310,545 renter-occupied units in the San Francisco Bay Area where gross rent was 25 percent or more of income. This represented 44.2 percent of all renter-occupied units in the region.

Nearly three-fourths (73.0 percent) of all households "overpaying" lived in 1-bedroom (37.4 percent) and 2-bedroom (35.6 percent) units. The proportions for the other sizes were considerably smaller:

0 bedroom	10.8 percent
1 bedroom	37.4 percent
2 bedrooms	35.6 percent
3 bedrooms	13.4 percent
4 or more bedrooms	2.8 percent

Over one-third (34.4 percent) of the households "overpaying" were in the \$100 - \$149 rent range and more than a fourth more (28.5 percent) were in the \$150 - \$199 range. The proportion of the total households "overpaying" increased in each rent range up through \$100 - \$149 and then decreased:

Less than \$40	0.4 percent
\$40 - \$59	3.4 percent
\$60 - \$79	7.5 percent
\$80 - \$99	9.7 percent
\$100 - \$149	34.4 percent
\$150 - \$199	28.5 percent
\$200 or more	16.0 percent

The largest numbers of households "overpaying" were in 1-bedroom units renting for \$100 - \$149 (16.6 percent of all "overpaying") and 2-bedroom units renting for \$150 - \$199 (13.9 percent) and \$100 - \$149 (11.2 percent).

Only 25.0 percent of all renter-occupant households paying less than \$40 "overpaid." Percentages at the other rent levels ranged from 44.3 percent at \$0 - \$59 to 50.6 percent at \$200 or more.

It was recognized that some renter occupants voluntarily pay more than 25 percent of their incomes for gross rent, e.g., in order to obtain special amenities. It was assumed that tenants were voluntarily "overpaying" to the extent that there were "standard" rental vacancies in the rent-size category which would be needed to meet the criterion for rent-paying ability used in this analysis. It is likely that this procedure overestimates the number of households "voluntarily overpaying."

Because the determination of whether the "overpaying" was voluntary depended upon a comparison between units needed (rather than occupied) by "overpaying" households and "standard" vacant-for-rent units, it was deemed impractical to reduce the figures on "overpaying" used in estimating total households needing housing in the next section of this chapter. The reduction to "involuntary overpaying" is, however, reflected in the estimates of additional housing needed in Chapter IV. For the region as a whole, a total of 283,384 households were found to be "involuntarily overpaying"--a reduction of 8.8 percent from the total in Table 5. The reductions, by size of unit needed, would have been:

<u>Number of Bedrooms</u>	<u>Percent Reduction in "Overpaying"</u>	<u>Households "Involuntarily Overpaying"</u>
0	7.0	31,307
1	10.1	104,357
2	9.3	100,165
3	5.4	39,248
4 or more	5.9	8,306

TABLE 6.

ESTIMATED TOTAL RENTER-OCCUPANT HOUSEHOLDS IN NEED OF HOUSING,
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ¹	TOTAL ²		Number of Bedrooms									
			0		1		2		3		4 or more	
	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³
Paying cash rent												
Less than \$40	4,480	89.0	3,274	97.4	937	74.7	210	65.1	59	61.1	0	--
\$40 - \$59	20,842	87.7	11,668	99.0	6,309	79.1	2,187	70.5	636	74.6	42	100.0
\$60 - \$79	36,472	76.8	13,437	95.8	14,298	70.3	6,381	66.1	1,979	66.7	377	72.5
\$80 - \$99	42,334	65.3	9,180	74.6	21,580	63.4	8,652	62.5	2,434	63.2	489	60.9
\$100 - \$149	138,318	58.1	14,709	59.7	64,744	56.9	46,483	59.1	10,714	59.3	1,666	60.4
\$150 - \$199	105,025	53.9	3,666	56.2	32,509	53.6	50,834	53.1	15,529	53.8	2,480	52.6
\$200 or more	57,406	58.3	1,477	75.4	8,124	59.3	22,656	58.0	19,352	57.5	5,796	57.2
Without payment of cash rent	2,520	11.8	728	47.7	524	12.5	603	8.4	511	8.0	155	7.6
One-family houses on a place of 10 acres or more	997	10.9	217	34.4	307	10.3	314	8.7	130	8.5	29	8.4
TOTAL ²	408,394	58.1	58,354	77.0	149,333	57.6	138,319	55.1	51,345	53.3	11,043	53.3

1. Gross rent is tabulated for all renter-occupied units except one-family houses on a place of 10 acres or more.
No-cash-rent one-family houses must be on a place of less than 10 acres.

2. Because of rounding of numbers in inflating sample data, some row and column totals do not equal the sum of the numbers in their respective rows and columns.

3. Percentages computed on the basis of the figure in the corresponding cell of the universe matrix (Table 1).

Estimated Total Renter-Occupant Households
in Need of Housing

Table 6 is a summation of the "total renter-occupant need" figures for each of the nine Bay Area counties. For each county the figures from the four preceding tables have been combined, taking into account the possible overlap among the various types of housing need. The totals were adjusted so that in no case in a given rent-size category for a county did the total number of renter-occupant households in need of housing exceed the total renter-occupied units in that category (Table 1).

Two assumptions were made in the course of these adjustments:

- Overcrowded units were likely to be physically substandard, and
- Units where the gross rent was 25 percent or more of income were likely to be physically substandard.

Each estimate of "total renter-occupant need" is a summation of the distributions of:

- Households in units lacking one or more plumbing facilities,
- Households in units with all plumbing facilities, but with "substandard" heating equipment,
- "Overcrowded" households in units with all plumbing facilities in excess of the number of units with "substandard" heating, and
- "Overpaying" households¹ up to, but not exceeding, the number of "physically standard" units.

There were 408,394 renter-occupant households in the San Francisco Bay Area which were in need of housing according to one or more of the four measures used in this study. This represented 58.1 percent of all renter-occupant households in the region. Only 10.8 percent of the units were "physically substandard" and 7.5 percent were "overcrowded." A disproportionate share of the households in this table were included because of "overpaying," and therefore the distributions in Tables 5 and 6 are quite similar.

1. As explained in the previous section, p. 17, this estimate includes households classed as "voluntarily overpaying," which were not identified by rent-size category of unit occupied.

Seven-tenths (70.5 percent) of all the renter-occupant households needing housing lived in 1-bedroom (36.6 percent) or 2-bedroom (33.9 percent) units. The proportions for the other sizes were considerably smaller.

0 bedroom	14.3 percent
1 bedroom	36.6 percent
2 bedrooms	33.9 percent
3 bedrooms	12.6 percent
4 or more bedrooms	2.7 percent

Over one-third (33.9 percent) of the renter-occupant households needing housing were in the \$100 - \$149 rent range and one-fourth (25.7 percent) more were in the \$150 - \$199 range. The proportion which needed housing increased in each rent range up through \$100 - \$149 and then decreased:

Less than \$40	1.1 percent
\$40 - \$59	5.1 percent
\$60 - \$79	8.9 percent
\$80 - \$99	10.4 percent
\$100 - \$149	33.9 percent
\$150 - \$199	25.7 percent
\$200 or more	14.1 percent

Only 0.6 percent of renter-occupant households needing housing were not paying cash rent, and 0.2 percent were households in one-family houses on a place of 10 acres or more, reflecting the fact that only plumbing facilities and persons per room were measured for them.

The percentage of all renter-occupant households was greatest among those in 0-bedroom units who needed housing (77.0 percent) and declined as unit-size increased (to 53.3 percent in units of 3 or more bedrooms).

In general, the rate of incidence of housing need decreased with the amount of rent paid. The proportion ranged from 89.0 percent in the Less than \$40 range to 53.9 percent in the \$150 - \$199 range and rose again to 58.3 percent for \$200 or more. Only 11.8 percent of all households not paying cash rent were in need of housing, and 10.9 percent of all households in one-family houses on a place of 10 acres or more, because these categories could not be measured in terms of the incidence of "substandard" heating equipment or of "overpaying" for rent.

It should be remembered that this estimate of renter-occupant households in need of housing is not an estimate of housing needed to rehouse them appropriately, nor of needed additions to the standard housing stock.

III. ESTIMATE OF THE NUMBER OF OWNER-OCCUPANT
HOUSEHOLDS IN NEED OF HOUSING:
SAN FRANCISCO BAY AREA, 1970

Table 7 indicates the estimated distribution of all owner-occupied units, by value range and number of bedrooms.¹ The figures in this table are used as the bases of the percentages shown in Tables 8 through 11, and 13.

The next three tables set forth the dimensions of the housing need in terms of the value range and number of bedrooms in the units occupied by owner households identified by each criterion of need:

- Living in "physically substandard" housing units:²
- Lacking one or more plumbing facilities,
- With "substandard" heating equipment,
- "Overcrowded" (1.01 or more persons per room).

It is important to note that this analysis of need is not comparable to that for renter-occupants because it does not include a component for "overpaying" since the Census gives no measure of the proportion of income spent for housing in owner-occupied units comparable to the percent of income spent for gross rent in renter-occupied units. Owner-occupant households which were "overpaying" in "physically substandard" and/or "overcrowded" units were counted under those headings.³ Those owners who were neither in "physically substandard" units nor "overcrowded" were not likely to be able and/or willing to sell their homes in order to take advantage of lower housing costs even if available.

1. As indicated in Chapter I, with the exception of grand totals, all of these figures are estimates only.

2. The use of these two measures to estimate substandardness undoubtedly results in an under-count. There remain housing units with all plumbing facilities and "standard" heating equipment which would be found upon inspection to have other deficiencies or to be in such a state of disrepair as to be considered substandard.

3. However, in calculating what would be needed to rehouse these households appropriately, they were all assumed to need units of the same value as the ones they were occupying.

Following the distribution of households experiencing various types of housing need, Table 11 sets forth the aggregate of owner occupants needing housing, taking into account the possible overlap among the various categories of need. It was assumed that overcrowded units were likely to be physically substandard.¹

Each table is followed by a brief narrative summarizing the distribution of cases contained therein. It should be emphasized that these are estimates only.

1. "Overcrowded" households were counted in the total need only to the extent that they exceeded the households in "physically substandard" units in a given value-size category.

TABLE 7.
ESTIMATED TOTAL OWNER-OCCUPIED UNITS,
BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value ¹	TOTAL	Number of Bedrooms				
		0-1	2	3	4	5 or more
Less than \$5,000	706	248	260	158	22	18
\$5,000-\$9,999	8,115	2,132	4,164	1,592	204	23
\$10,000-\$14,999	38,141	4,434	21,091	11,126	1,276	24
\$15,000-\$19,999	120,456	5,925	49,981	58,024	5,880	646
\$20,000-\$24,999	184,288	4,389	49,343	109,935	19,226	1,320
\$25,000-\$34,999	237,169	3,421	45,653	134,191	48,633	5,271
\$35,000 or more	170,706	1,569	17,038	72,380	61,956	17,753
No value given	90,310	21,382	43,580	19,070	4,904	1,374
Mobile home or trailer	24,230					
2 units or more	48,663					
Other one-family	17,417					
TOTAL	849,891	43,500	231,115	406,476	142,111	26,689

1. Value is tabulated for one-family houses which are on a place of less than 10 acres and have no business or medical office on the property. Value is not tabulated for mobile homes, trailers, cooperatives, condominiums or other one-family houses.

Estimated Total Owner-Occupied Units
(Universe)

This table presents the distribution of all owner-occupied units, by value range and number of bedrooms. The figures in this table were used as the bases of the percentages shown in the corresponding cells of Tables 8 through 11, and 13.

It was not possible to allocate unit sizes among the subcategories of "No value given." The totals for the three types are shown to indicate their relative proportions of that group.

There were 849,891 owner-occupied housing units in the region. The median owner-occupied unit in the San Francisco Bay Area had 3 bedrooms. Among those units for which a value was given, the median fell in the \$25,000 - \$34,999 range.

Nearly half of all owner-occupied units had 3 bedrooms (47.8 percent). Five-or-more-bedroom units were in shortest supply (3.1 percent).

Among the value categories, the largest numbers were in the \$25,000 - \$34,999 range (31.2 percent of those for which value was given) and \$20,000 - \$24,999 range (24.3 percent). Less than one-fourth (22.0 percent of all housing for which value was given) was priced below \$20,000.

The median unit valued at less than \$15,000 had 2 bedrooms. For value categories from \$15,000 up, the median unit had 3 bedrooms.

Among the units for which a value was given, the median value range tended to increase with unit size:

0 or 1 bedroom	\$15,000 - \$19,999
2 bedrooms	\$20,000 - \$24,999
3 bedrooms	\$25,000 - \$34,999
4 bedrooms	\$25,000 - \$34,999
5 or more bedrooms	\$35,000 or more

Seven-tenths (70.1 percent) of the units with 5 or more bedrooms for which value was given were in the \$35,000 or more class. Only 901 (3.6 percent) were valued at less than \$20,000.

Among the individual value-size categories, the largest percentages of units were 3-bedroom units valued at \$25,000 - \$34,999 (15.8 percent of the universe), \$20,000 - \$24,999 (12.9 percent) and \$35,000 or more (8.5 percent). Next in order were 4-bedroom units valued at \$35,000 or more (7.3 percent).

In conclusion, this table provides some indication of those segments of the sale housing market where the supply was severely limited -- regardless of quality. As in the case of the renter-occupied universe, these were among the larger units and the lower dollar ranges.

TABLE 8. ESTIMATE OWNER-OCCUPIED UNITS
LACKING ONE OR MORE PLUMBING FACILITIES,
BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value ²	TOTAL ³		Number of Bedrooms									
			0-1		2		3		4		5 or more	
	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴
Less than \$5,000	94	13.3	36	14.5	29	11.3	21	13.3	5	22.2	3	14.6
\$5,000 - \$9,999	161	2.0	61	2.9	49	1.2	39	2.4	9	4.6	3	11.4
\$10,000 - \$14,999	307	0.8	126	2.8	92	0.4	68	0.6	18	1.4	4	1.7
\$15,000 - \$19,999	508	0.4	175	3.0	161	0.3	133	0.2	27	0.5	12	1.9
\$20,000 - \$24,999	521	0.3	167	3.8	172	0.3	138	0.1	27	0.1	17	1.3
\$25,000 - \$34,999	488	0.2	168	4.9	162	0.4	118	0.1	26	0.1	15	0.3
\$35,000 or more	432	0.3	133	8.5	150	0.9	105	0.1	31	5	13	0.1
No value given	2,026	2.2	715	3.3	650	1.5	497	2.6	111	2.3	54	3.9
Mobile home or trailer	674	2.8										
2 units or more	1,063	2.2										
Other one-family	290	1.7										
TOTAL ³	4,536	0.5	1,578	3.6	1,466	0.6	1,118	0.3	254	0.2	121	0.5

1. Hot piped water, flush toilet for this household only, bathtub or shower for this household only.

2. Value is tabulated for one-family houses which are on a place of less than 10 acres and have no business or medical office on the property. Value is not tabulated for mobile homes, trailers, cooperatives, condominiums or other one-family houses.

3. Because of rounding of numbers in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

4. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 7).

5. ... signifies more than 0 but less than 0.1 percent.

Estimated Owner-Occupied Units Lacking

One or More Plumbing Facilities

All housing units lacking one or more plumbing facilities (hot piped water, flush toilet for this household only, bathtub or shower for this household only) were classed as "physically substandard."

It is important to note that, because of the problems involved in developing this table, less reliance can be placed on the figures for individual value-size categories than on the row and column totals.

There were 4,536 owner-occupied units in the San Francisco Bay Area which lacked one or more plumbing facilities. These represented 0.5 percent of all owner-occupied units in the region.

In terms of absolute numbers, the housing units lacking one or more plumbing facilities were concentrated in the 0-1- and 2-bedroom sizes (34.8 and 32.3 percent, respectively of all units with this deficiency), and in the group for which no value was given (44.7 percent).

The proportions of the total units deficient declined with size, especially among the larger units:

0 or 1 bedroom	34.8 percent
2 bedrooms	32.3 percent
3 bedrooms	24.6 percent
4 bedrooms	5.6 percent
5 or more bedrooms	2.7 percent

Among the units for which a value was given, the median unit which lacked one or more plumbing facilities was valued between \$20,000 and \$24,999 and had 2 bedrooms.

The proportions of the total units deficient increased with value, up through the \$20,000 - \$24,999 range, and then decreased slightly:

Less than \$5,000	2.1 percent
\$5,000 - \$9,999	3.6 percent
\$10,000 - \$14,999	6.8 percent
\$15,000 - \$19,999	11.2 percent
\$20,000 - \$24,999	11.5 percent
\$25,000 - \$34,999	10.8 percent
\$35,000 or more	9.5 percent
No value given	44.7 percent
Mobile home or trailer	14.9 percent
2 units or more	23.4 percent
Other one-family	6.4 percent

- 8 -

When the units lacking one or more plumbing facilities are calculated as a percentage of cases in the corresponding cell of the universe matrix, it is possible to measure the relative intensity of the problem among value and size categories. The deficiency rate was highest among 0-1-bedroom units (3.6 percent of all such units) and among units valued at less than \$5,000 (13.3 percent). The proportion lacking all plumbing facilities fell off markedly and decreased with size for units with 2 bedrooms or more. A similar drop-off occurred above the Less than \$5,000 range, with incidence among units for which value was given tending to decrease with value. It is of some interest that plumbing deficiencies occurred at higher rates among mobile homes or trailers and multi-family structures than among one-family houses on a place of 10 acres or more or with business or medical office on the property.

TABLE 9.

ESTIMATED OWNER-OCCUPIED UNITS WITH ALL PLUMBING FACILITIES BUT WITH "SUBSTANDARD" HEATING EQUIPMENT,¹
BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value ²	TOTAL ³		Number of Bedrooms									
			0-1		2		3		4		5 or more	
	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴
Less than \$5,000	36	5.1	15	6.2	13	5.0	6	4.1	1	2.8	1	5.0
\$5,000-\$9,999	589	7.3	164	7.7	294	7.0	118	7.4	13	6.1	1	4.5
\$10,000-\$14,999	2,479	6.5	269	6.1	1,380	6.5	735	6.6	73	5.7	22	10.4
\$15,000-\$19,999	5,895	4.9	149	2.5	1,993	4.0	3,348	5.8	363	6.2	34	5.3
\$20,000-\$24,999	6,304	3.4	--	--	1,188	2.4	4,042	3.7	1,002	5.2	73	5.2
\$25,000-\$34,999	3,829	1.6	--	--	--	--	1,744	1.3	1,838	3.8	246	4.7
\$35,000 or more	--	--	--	--	--	--	--	--	--	--	--	--
No value given	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL ³	19,132	2.3	598	1.4	4,873	2.1	9,994	2.5	3,290	2.3	377	1.4

1. Room heaters without flue; fireplaces; stoves or portable room heaters; not heated.

2. Value is tabulated for one-family houses which are on a place of less than 10 acres and have no business or medical office on the property. Value is not tabulated for mobile homes, trailers, cooperatives, condominiums or other one-family houses.

3. Because of rounding of numbers in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

4. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 7).

Estimated Owner-Occupied Units with All Plumbing Facilities
but with "Substandard" Heating Equipment

All housing units with "substandard" heating equipment (room heaters without flue; fireplaces; stoves or portable heaters; not heated) were classed as "physically substandard." Since those units which had "substandard" heating equipment and also lacked one or more plumbing facilities had already been counted in Table 8, Table 9 includes only those units which had all plumbing facilities but lacked "standard" heating equipment.

The distribution of cases by value-size categories reflects the assumptions which were made in developing this table:

- Units with all plumbing facilities but with "substandard" heating equipment would have values lower than the median figure for all units of their size, and
- The units with this deficiency would be distributed evenly among the value categories below the universe median for each size.

Because of the assumption about below-median values, it was impossible to allocate any cases to the category "No value given." As a result, there is probably a slight over-count in the "Value" categories.

There were 19,132 owner-occupied units in the San Francisco Bay Area which had all plumbing facilities but had "substandard" heating equipment. This was 2.3 percent of all owner-occupied units in the region.

Over half (52.2 percent) of all the units of this type were 3-bedroom units. The proportion increased with each size class up through 3 bedrooms, and then declined:

0 or 1 bedroom	3.1 percent
2 bedrooms	25.5 percent
3 bedrooms	52.2 percent
4 bedrooms	17.2 percent
5 or more bedrooms	2.0 percent

Nearly two-thirds of the cases were in the \$15,000 - \$19,999 and \$20,000 - \$24,999 value ranges (30.8 percent and 33.0 percent, respectively, of all such units). Among the value ranges, the percentage of the total units with all plumbing facilities and "substandard" heating increased with price up through \$20,000 - \$24,999 and then declined:

Less than \$5,000	0.2 percent
\$5,000 - \$9,999	3.1 percent
\$10,000 - \$14,999	13.0 percent
\$15,000 - \$19,999	30.8 percent
\$20,000 - \$24,999	33.0 percent
\$25,000 - \$34,999	20.0 percent
\$35,000 or more	0.0 percent

Nearly two-fifths (38.6 percent) of all the units with this deficiency were 3-bedroom units in the \$20,000 - \$24,999 and \$15,000 - \$19,999 ranges (21.1 and 17.5 percent, respectively).

The percentages in the table represent the rates at which the deficiency occurs in the various value-size categories. The highest proportion with all plumbing facilities but with "substandard" heating equipment was among 5-or-more bedroom units valued between \$10,000 and \$14,999. The percentages increased with size up through 3-bedrooms and decreased thereafter. In terms of value, rate of incidence of this type of need was highest for units in the \$5,000 - \$9,999 range and decreased with value thereafter. This reflected the assumption about the units' being valued at less than the median for their size.

TABLE 10.

ESTIMATED OWNER-OCCUPIED UNITS WITH 1.01 OR MORE PERSONS PER ROOM,
BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value ¹	Number of Bedrooms											
	TOTAL ²		0-1		2		3		4		5 or more	
	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³
Less than \$5,000	35	4.9	12	5.0	12	4.8	8	5.2	1	4.1	1	5.9
\$5,000-\$9,999	395	4.9	103	4.8	202	4.9	78	4.9	10	5.1	1	5.2
\$10,000-\$14,999	1,885	4.9	215	4.8	1,044	5.0	552	5.0	64	5.0	11	5.0
\$15,000-\$19,999	5,997	5.0	292	4.9	2,472	4.9	2,901	5.0	300	5.1	32	5.0
\$20,000-\$24,999	9,062	4.9	210	4.8	2,383	4.8	5,433	4.9	969	5.1	67	4.8
\$25,000-\$34,999	11,386	4.8	162	4.7	2,201	4.8	6,384	4.8	2,376	4.9	263	5.0
\$35,000 or more	7,830	4.6	74	4.7	795	4.7	3,281	4.5	2,845	4.6	834	4.7
No value given	4,483	5.0	1,055	4.9	2,162	5.0	952	5.0	244	5.0	68	5.0
TOTAL ²	41,073	4.8	2,124	4.9	11,272	4.9	19,590	4.8	6,809	4.8	7,279	4.8

1. Value is tabulated for one-family houses which are on a place of less than 10 acres and have no business or medical office on the property. Value is not tabulated for mobile homes, trailers, cooperatives, condominiums or other one-family houses.

2. Because of rounding of numbers in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

3. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 7).

Estimated Owner-Occupied Units with
1.01 or More Persons Per Room

All households in units with 1.01 or more persons per room were classed as "overcrowded."

In developing this table, it was assumed that units with 1.01 or more persons per room were distributed evenly throughout the value-size categories in the universe. The value-size distribution of the "overcrowded" units is a reflection of the variations in the rates of "overcrowding" and in value-size distributions of all owner-occupied units in the nine Bay Area counties.

There were 41,073 owner-occupied units in the San Francisco Bay Area which had 1.01 or more persons per room. These represented 4.8 percent of all owner-occupied units in the region.

Nearly half (47.7 percent) of all the "overcrowded" units were 3-bedroom units. The proportions for the other sizes were considerably smaller:

0 or 1 bedroom	5.2 percent
2 bedrooms	27.4 percent
3 bedrooms	47.7 percent
4 bedrooms	16.6 percent
5 or more bedrooms	3.1 percent

Over one-fourth (27.7 percent) of the "overcrowded" units were in the \$25,000 - \$34,999 value range and nearly one-fourth more (22.1 percent) were valued at \$20,000 - \$24,999. The proportion of the total "overcrowded" units in each value range increased with the value, up to \$35,000; and then declined:

Less than \$5,000	0.1 percent
\$5,000 - \$9,999	1.0 percent
\$10,000 - \$14,999	4.6 percent
\$15,000 - \$19,999	14.6 percent
\$20,000 - \$24,999	22.1 percent
\$25,000 - \$34,999	27.7 percent
\$35,000 or more	19.1 percent

The owner-occupant households in units for which no value was given accounted for 10.9 percent of the "overcrowded" units.

The largest numbers of "overcrowded" units by value-size were 3-bedroom units valued at \$25,000 - \$34,999 (15.5 percent of all households with this need) and \$20,000 - \$24,999 (13.2 percent).

As the table indicates, approximately 5 percent of all owner-occupied units in the San Francisco Bay Area had 1.01 or more persons per room. Because of county variations in value-size distributions and in the incidence of "overcrowding," the regional rates for the various value-size categories ranged from 4.1 percent of 4-bedroom units valued at less than \$5,000 to 5.9 percent of 5-or-more-bedroom units in the same price range.

TABLE 11.

ESTIMATED TOTAL OWNER-OCCUPANT HOUSEHOLDS IN NEED OF HOUSING,¹
BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value ²	TOTAL ³		Number of Bedrooms									
			0-1		2		3		4		or more	
	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴	Number	% of Total in Category ⁴
Less than \$5,000	106	15.1	53	21.2	33	12.6	19	11.8	1	6.1	1	5.9
\$5,000-\$9,999	790	9.7	234	11.0	366	8.8	166	10.4	22	11.0	1	5.2
\$10,000-\$14,999	3,022	7.9	420	9.5	1,605	7.6	872	7.8	100	7.8	25	11.9
\$15,000-\$19,999	7,730	6.4	489	8.3	2,815	5.6	3,937	6.8	438	7.4	51	7.2
\$20,000-\$24,999	10,200	5.5	367	8.4	2,830	5.7	5,693	5.2	1,206	6.3	104	7.5
\$25,000-\$34,999	12,300	5.2	319	9.3	2,342	5.1	6,833	5.1	2,488	5.1	318	6.0
\$35,000 or more	8,205	4.8	198	12.6	935	5.5	3,366	4.7	2,863	4.6	843	4.8
No value given	6,389	7.1	1,729	8.1	2,771	6.4	1,420	7.4	349	7.1	119	8.7
TOTAL ³	48,742	5.7	3,809	8.8	13,697	5.9	22,306	5.5	7,467	5.3	1,463	5.5

1. See text following for explanation of discrepancies between figures in this table and those in Tables 8 - 10. Note that "overpaying" is not a factor in estimating housing need for owner-occupants.

2. Value is tabulated for one-family houses which are on a place of less than 10 acres and have no business or medical office on the property. Value is not tabulated for mobile homes, trailers, cooperatives, condominiums, or other one-family

3. Because of rounding of numbers in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

4. Percentage computed on the basis of the figure in the corresponding cell of the universe matrix (Table 7).

Estimated Total Owner-Occupant Households
in Need of Housing

Table 11 is a summation of the "total owner-occupant need" figures for each of the nine Bay Area counties. For each county the figures from the three preceding tables have been combined, taking into account the possible overlap among the various types of housing need. The totals were adjusted so that in no case in a given value-size category for a county did the total number of owner-occupant households in need of housing exceed the total owner-occupied units in that category (Table 7). In the course of these adjustments it was assumed that overcrowded units were likely to be physically substandard.

Table 11 is a summation of the distributions of:

- Households in units lacking one or more plumbing facilities,
- Households in units with all plumbing facilities, but with "substandard" heating equipment, and
- "Overcrowded" households in units with all plumbing facilities in excess of the number of units with "substandard" heating.

There are some inconsistencies between entries in some Table 11 cells which contain small numbers and the numbers which would have resulted had the adjustments for overlap been applied directly to the regional data. These inconsistencies result from rounding inflations of sample data and amount to very small percentages of the overall total. Nevertheless, this phenomenon underscores the approximateness of the estimates where universe values are small.

There were 48,742 owner-occupant households in the San Francisco Bay Area which were in need of housing according to one or more of the three measures used in this study. This represented 5.7 percent of all owner-occupant households in the region. Only 2.8 percent of the units were "physically substandard" and 4.8 percent were "overcrowded".

Nearly half (45.8 percent) of all owner-occupant households needing housing lived in 3-bedroom units. The proportions increased with unit size up through 3 bedrooms and then declined:

0 or 1 bedroom	7.8 percent
2 bedrooms	28.1 percent
3 bedrooms	45.8 percent
4 bedrooms	15.3 percent
5 or more bedrooms	3.0 percent

About one-fourth (25.2 percent) of the owner-occupant households needing housing were in units in the \$25,000 - \$34,999 range and another fifth (20.9 percent) were in the \$20,000 - \$24,999 range. The proportions which needed housing increased in each value range up to \$35,000 and then decreased:

Less than \$5,000	0.2 percent
\$5,000 - \$9,999	1.6 percent
\$10,000 - \$14,999	6.2 percent
\$15,000 - \$19,999	15.9 percent
\$20,000 - \$24,999	20.9 percent
\$25,000 - \$34,999	25.2 percent
\$35,000 or more	16.8 percent

The owner-occupant households in units for which no value was given accounted for 13.1 percent of those in need of housing.

The rate of incidence of housing need was highest among owner-occupied households in 0- and 1-bedroom units (8.8 percent) and, in general, declined thereafter as size increased. Among value categories, the rate of need was highest among households in units in the Less than \$5,000 range (15.1 percent) and declined as value increased.

It must be emphasized that this estimate of owner-occupant households in need of housing is not an estimate of housing needed to rehouse them appropriately, nor of needed additions to the standard housing stock.

The proportion in need of housing among owner-occupants was much lower than for renter-occupants because the incidence of overpaying among owner-occupants could not be estimated from available data. The proportions and distributions of households needing housing vary considerably between the universe of owner-occupants and that of renter-occupants:

	<u>Number of Households</u>			
	Owner Occupants		Renter Occupants	
	No.	%	No.	%
Total households	849,891	100.0	702,910	100.0
Households in need of housing	48,742	5.7	408,394	58.1
Lacking one or more plumbing facilities	4,536	0.5	31,415	4.5
With all plumbing facilities, "substandard" heating equipment	19,132	2.3	44,356	6.3
1.01 or more persons per room	41,073	4.8	52,702	7.5
Paying 25 percent or more of income for gross rent	--	--	310,545	44.2

The measures of need ranked in the same order with respect to percent of households affected: "overcrowded;" with all plumbing facilities but with "substandard" heating equipment; lacking all plumbing facilities. In each case the percent of renter-occupants was larger than that of owner-occupants. The percent lacking one or more plumbing facilities was nine times as high for renters. Nearly three times (2.7) as large a proportion of tenants had all plumbing facilities but "substandard" heating equipment. Renters were one and a half times as likely to be "overcrowded."

IV. ESTIMATES OF ADDITIONAL STANDARD HOUSING NEEDED¹

Rental Units

As indicated in Chapter I, once the distributions of renter-occupant households with housing needs had been identified, a number of calculations were required in order to estimate the distribution of additional standard rental units which would be needed for suitable rehousing and maintenance of an adequate vacancy rate:

- The distribution of larger units needed by "overcrowded" renter-occupant households,
- The distribution of less expensive units needed by renter-occupant households which were "involuntarily overpaying,"
- The distribution of households in "net physically substandard units" which could be suitably rehoused in standard units of the same rent range and size,
- The distribution of standard vacant rental units needed to maintain a 4.5 percent vacancy factor to permit mobility and freedom of housing choice,
- The distribution of "standard" rental vacancies in 1970,
- The distribution of "standard" rental units which would be vacated if the "overcrowded" and "involuntarily overpaying" households were rehoused.

The first four distributions were combined to determine the distribution of standard rental vacancies needed. The last two distributions were combined to produce the distribution of "standard" rental vacancies which would be available to meet the need. Finally, this latter distribution of "standard" rental vacancies available was subtracted from the distribution of standard rental vacancies needed, to give the distribution of additional standard rental vacancies needed, as of 1970, to house all renter occupants in standard housing of the appropriate rent level and size and provide a 4.5 percent vacancy rate to permit mobility and freedom of housing choice. The results are presented in Table 12.

1. All of these figures are estimates only.

TABLE 12.

ESTIMATED ADDITIONAL STANDARD RENTAL UNITS NEEDED,¹
BY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent ²	TOTAL ³		Number of Bedrooms									
			0		1		2		3		4 or more	
	Number	% of Total in Category 4	Number	% of Total in Category 4	Number	% of Total in Category 4	Number	% of Total in Category 4	Number	% of Total in Category 4	Number	% of Total in Category 4
Less than \$40	10,470	207.9	6,109	181.8	2,971	236.6	1,068	331.5	272	280.4	50	11.5
\$40-\$59	37,611	158.3	14,515	123.2	14,058	176.3	6,389	206.1	2,164	253.5	485	1,155.6
\$60-\$79	52,516	110.5	10,565	75.3	23,623	116.2	13,176	135.4	4,109	138.6	1,041	200.8
\$80-\$99	53,853	83.0	5,159	41.9	24,168	71.0	17,668	127.6	5,492	142.6	1,366	170.6
\$100-\$149	93,341	39.2	1,881	7.6	20,546	18.0	45,217	57.5	19,673	108.9	6,025	218.0
\$150-\$199	17,893	9.2	57	1.0	457	0.8	3,219	3.4	8,096	28.1	6,064	145.2
\$200 or more	25,148	25.5	274	14.0	504	3.7	5,951	15.2	11,139	33.1	7,279	72.6
Without payment of cash rent	1,953	9.2	577	37.9	157	3.7	62	0.9	325	5.1	832	40.8
One-family houses on a place of 10 acres or more	131	1.4	131	20.8	0	0.0	0	0.0	0	0.0	0	0.0
TOTAL ³	292,916	41.7	39,269	51.3	86,484	33.4	92,749	36.9	51,270	53.2	23,144	111.7

1. For an explanation of how these needs were determined, see page 39, above. This report makes no judgment as to what proportion of these additional units should be new construction or the extent to which they could be supplied through rehabilitation of the units identified as "physically substandard." These "needs" should not be interpreted as effective demand.

2. Gross rent is calculated for all renter-occupied units except one-family houses on a place of 10 acres or more. No-cash-rent one-family houses must be on a place of less than 10 acres.

3. Because of rounding of numbers in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

4. Percentage computed on the basis of the figure in the corresponding cell of Table 1.

5. There were no renter-occupied units in this rent-size category.

Table 12 is a summation of the distributions of additional standard rental units needed for each of the nine counties in the San Francisco Bay Area. In all, an estimated 292,916 additional standard rental units would have been needed to provide appropriate housing for the region's renter households which had one or more housing needs and to permit mobility and freedom of housing choice in 1970. This amounted to 39.6 percent of the total rental housing stock, both standard and substandard.¹ However, since some of the need might have been met by rehabilitation, it does not mean that the overall supply needed to be increased by approximately two-fifths. More importantly, these estimates do not refer to effective demand.

The percentages in Table 12 are based on the numbers in the corresponding cells of the universe matrix of renter-occupied units (Table 1). They are useful in demonstrating the relation of the need for additional standard units to the distribution of existing stock since the renter-occupied figure represents 95.1 percent of the rental housing stock. The renter-occupied base was used instead of total rental units to simplify computer-programming.

The median additional standard rental needed was a 2-bedroom unit. Among those on places of less than 10 acres for which cash rent would be paid, the median was in the \$80 - \$99 gross-rent range.

About three-fifths of the additional standard rentals needed were 1- and 2-bedroom units (29.5 percent and 31.7 percent, respectively, of the total needed).

About half of the additional standard rentals needed were in the ranges from \$80 - \$149 (18.4 percent, \$80 - \$99; 31.9 percent, \$100 - \$149).

The median size of unit needed, by gross-rent range, tended to increase with rent:

Less than \$40	0 bedroom
\$40 - \$59	1 bedroom
\$60 - \$79	1 bedroom
\$80 - \$99	1 bedroom
\$100 - \$149	2 bedrooms
\$150 - \$199	3 bedrooms
\$200 or more	3 bedrooms

The median sizes needed for additional standard rental units without payment of cash rent and one-family houses on a place of 10 acres or more were 3 bedrooms and 0 bedroom, respectively.

The median gross rent, by unit size, among those for which cash rent was indicated, tended to increase with size:

1. The total rental housing stock, both standard and substandard, as used here, consists of all renter-occupied units (Table 1) and all vacant-for-rent units.

0 bedroom	\$40 - \$59
1 bedroom	\$80 - \$99
2 bedrooms	\$100 - \$149
3 bedrooms	\$100 - \$149
4 or more bedrooms	\$150 - \$199

The percentage columns in Table 12 indicate the relationship between the extent of need for additional standard units and the distribution of renter-occupied units in 1970. In 19 of the 45 rent-size categories, the units needed amounted to more than 100 percent of the existing renter-occupied units. In the 4-or-more bedroom size renting at less than \$40, where there were no renter-occupied units, there was need for 50 standard rentals. In the same size units renting for \$40 - \$59, the need represented 1,155.6 percent of the renter-occupied units. The third most significant category was 2-bedroom units renting for less than \$40, where the need was 331.5 percent of the renter-occupied stock. In summary, the number of additional standard rentals needed was greater than the number of renter-occupied units in all unit sizes at rents less than \$60, in 4 of 5 unit sizes renting for \$60 - \$79, 3 of 5 unit sizes renting for \$80 - \$99, and in all 4-or-more-bedroom units renting below \$200.

Sale Units

With the exception of omitting the category of households "involuntarily overpaying", the procedures used to calculate the distribution of additional standard vacant-for-sale units needed for suitable rehousing and maintenance of an adequate vacancy rate paralleled those for rental units.

The distribution of larger units needed by "overcrowded" renter-occupant households was combined with that of the households in "net physically sub-standard units" and the distribution of standard vacant sale units needed to maintain a 1 percent vacancy factor, to produce the distribution of standard vacant-for-sale units needed. The distribution of "standard" vacant-for-sale units in 1970 and "standard" sale units which would be vacated if the "overcrowded" households were rehoused were combined to produce the distribution of "standard" sale vacancies which would be available to meet that need. Then this latter distribution of "standard" sale vacancies available was subtracted from the distribution of standard sale vacancies needed, to give the distribution of additional standard vacant-for-sale units needed, as of 1970, to house all owner occupants in standard housing of the appropriate size and the same value range as units they occupied in that year and to provide a 1 percent vacancy rate to permit mobility and freedom of housing choice. The results are presented in Table 13.

Table 13 is a summation of the distributions of additional standard sale units needed for each of the nine counties in the region. Altogether, an estimated 71,869 additional standard sale units would have been needed to provide appropriate housing for the Bay Area's owner households which had one or more housing needs and to permit mobility and freedom of housing choice in 1970. This amounted to 8.4 percent of the total sale housing stock, both standard and substandard.¹ However, since some of the need

1. The total sale housing stock, both standard and substandard, as used here, consists of all owner-occupied units (Table 7) and all vacant-for-sale units.

TABLE 13.

ESTIMATED ADDITIONAL STANDARD SALE UNITS NEEDED,¹
BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value	TOTAL ²		Number of Bedrooms									
			0-1		2		3		4		5 or more	
	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³	Number	% of Total in Category ³
Less than \$5,000	184	26.0	38	15.2	28	10.6	30	19.0	29	130.3	59	330.3
\$5,000-\$9,999	909	11.2	155	7.3	192	4.6	350	22.0	156	76.4	55	241.2
\$10,000-\$14,999	4,141	10.9	239	5.4	592	2.8	1,691	15.2	1,096	85.9	522	244.1
\$15,000-\$19,999	11,269	9.4	130	2.2	311	0.6	4,854	8.4	4,642	78.9	1,332	206.2
\$20,000-\$24,999	14,388	7.8	22	0.5	397	0.8	3,908	3.6	7,507	39.0	2,553	183.7
\$25,000-\$34,999	20,839	8.8	9	0.3	0	0.0	2,239	1.7	10,379	21.3	8,211	155.8
\$35,000 or more	20,081	11.8	32	2.0	0	0.0	0	0.0	4,627	7.5	15,422	86.9
No value given	58	0.1	11	0.1	0	0.0	26	0.1	0	0.0	21	1.5
TOTAL ²	71,869	8.5	636	1.5	1,520	0.7	13,100	3.2	28,437	20.0	28,177	105.6

1. For an explanation of how these needs were determined, see p. 42, above. This report makes no judgment as to what proportion of these additional units should be new construction or to what extent they could be supplied through rehabilitation of the units identified as "physically substandard." These "needs" should not be interpreted as effective demand.

2. Because of rounding of numbers in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

3. Percentages computed on the basis of the figure in the corresponding cell of Table 7.

might have been met by rehabilitation, it does not mean that the overall supply needed to be increased by approximately one-twelfth. Above all, these estimates do not refer to effective demand.

The percentages in Table 13 are based on the numbers in the corresponding cells of the universe matrix (Table 7). The owner-occupied base was used instead of total sale units to simplify computer-programming. Since the owner-occupied figure represents 99.0 percent of the total sale housing stock, these figures are useful in demonstrating the relation of the need for additional standard units to the distribution of the existing stock.

The median additional standard sale unit needed had 4 bedrooms. Among those for which a value was given, the median was in the \$25,000 - \$34,999 range.

Nearly four-fifths of the additional standard sale units needed had 4 bedrooms or more (39.6 percent, 4 bedrooms; 39.2 percent, 5 or more bedrooms).

Nearly three-fifths of the additional standard sale units needed were in the value ranges of \$25,000 and over (\$25,000 - \$34,999, 29.0 percent; \$35,000 or more, 27.9 percent).

The median size of additional standard sale unit needed, by value range, tended to increase with value:

Less than \$5,000	3 bedrooms
\$5,000 - \$9,999	3 bedrooms
\$10,000 - \$14,999	3 bedrooms
\$15,000 - \$19,999	4 bedrooms
\$20,000 - \$24,999	4 bedrooms
\$25,000 - \$34,999	4 bedrooms
\$35,000 or more	5 or more bedrooms

The median additional standard sale unit needed in the category "No value given" had 3 bedrooms.

The median value, by unit size, among those for which value was given, tended to increase with size:

0 - 1 bedroom	\$10,000 - \$14,999
2 bedrooms	\$10,000 - \$14,999
3 bedrooms	\$15,000 - \$19,999
4 bedrooms	\$25,000 - \$34,999
5 or more bedrooms	\$35,000 or more

The percentage columns in Table 13 indicate relationship between the extent of need for additional standard sale units and the distribution of owner-occupied units in 1970. In 7 of the 40 value-size categories, the units needed amounted to more than 100 percent of the existing owner-occupied units. In the 5-or-more bedroom categories, the need was more than three times the owner-occupied stock valued at less than \$5,000 (330.3 percent) and more than twice the owner-occupied units in values from \$5,000 to \$19,999 (\$5,000 - \$9,999, 241.2 percent; \$10,000 - \$14,999, 244.1 percent; \$15,000 - \$19,999, 206.2 percent). In summary the number of additional standard sales units needed was greater than the number of owner-occupied units in all 5-or-more bedroom units valued under \$35,000 and in units valued less than \$5,000 with 4 or more bedrooms.

Housing Needed for Households

Involuntarily "Doubling"

The phenomenon of communes, extended families prevailing among certain ethnic groups, and other instances of voluntary "doubling" makes it difficult to estimate how many households would split up if suitable housing in the appropriate rent or value range could be found. Moreover, the Census does not provide a basis on which to identify unrelated individuals who are not roomers, boarders, foster children or resident employees.

It was assumed that husband-wife subfamilies were more likely to be "doubling" for lack of suitable housing within their means, while other subfamilies were more likely to be "doubling" for other reasons such as companionship, child-care, care of the elderly or handicapped. The information on these husband-wife subfamilies and their own children under 18 gives no indication of the rent or value, size or condition of the housing units occupied, nor of their own income or the number of others in their households.

It can only be stated, then, that in the San Francisco Bay Area in 1970 there were 10,329 husband-wife subfamilies with an average of 0.6 own children under 18 years old. On the average, they would have required 2-bedroom units. These sub-families were found in 0.7 percent of all the households in the region. Their needs were over and above those described in the distributions of additional standard rental and sale units shown in Tables 12 and 13.

V. HOUSING NEEDS WHICH MIGHT BE MET WITH HUD SUBSIDIES¹

As explained in the Introduction, this report was planned--in part--as the basis of an equity system for the allocation of HUD-subsidized low- and moderate-income housing. During the course of the research, the Federal moratorium on subsidized housing programs went into effect. Nevertheless, at some time in the future there are likely to be Federal--and possibly State--programs to help meet the housing needs of low- and moderate-income families and individuals. In the following computations it has been assumed that the income limits, rents and values would be approximately those for low-rent public housing and FHA Secs. 235 and 236 programs as of July 1, 1973. It should be noted that this chapter is concerned only with subsidies to housing; it does not consider housing allowances, which go to the consumer.

The figures below are the most approximate in this report, for a number of reasons:

- Individuals are eligible for the subsidized programs only if they are handicapped or elderly. Households shown as needing 0- or 1-bedroom units may be individuals who do not qualify.
- The income limits for eligibility are in terms of adjusted, rather than gross income.
- Not all households within the income limits will be eligible because of other requirements, such as asset limitations, marital status, etc.
- Some households may not have sufficient income or regular enough income to enable them to obtain even low-rent housing or Sec. 235 sale housing.
- Others with sufficient income to qualify may be barred because their work is seasonal.
- The income limits for Secs. 235 and 236 housing are set at 135 percent of public housing limits. This means that there may be a band where incomes are too high to qualify as "low" and too low to qualify as "moderate."
- Some eligible households may be too large to be suitably rehoused in even the largest units which can be produced under the financial rules of the programs.

1. Estimates of housing needs which might be met with HUD subsidies were made only for the region.

TABLE 14.
ESTIMATED POTENTIAL NEED FOR LOW-RENT
PUBLIC HOUSING OR SEC. 236 HOUSING,¹
BY MONTHLY GROSS RENT AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Monthly Gross Rent Needed in Private, Nonsubsidized Housing	TOTAL ²	Number of Bedrooms				
		0	1	2	3	4 or more
Less than \$40	10,470	6,109	2,971	1,068	272	50
\$40 - \$59	37,611	14,515	14,058	6,389	2,164	485
\$60 - \$79	52,516	10,565	23,623	13,176	4,109	1,044
\$80 - \$99	53,853	5,159	24,168	17,668	5,492	1,366
\$100 - \$149	85,844	1,406	13,523	45,217	19,673	6,025
\$150 - \$199	15,511	0	0	1,351	8,096	6,064
\$200 or more	5,287	0	0	0	1,647	3,640
TOTAL ²	261,092	37,754	78,343	84,869	41,453	18,674

1. See p. 48 for derivation of these figures.

2. Because of rounding of figures in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

The complexities of computer programming made it necessary to approach the problem of the potential use of subsidies in terms of additional standard units needed. It was not possible to distinguish for any one unit whether it would be needed for rehousing a household or to maintain the desired vacancy rate.

Technically, eligibility as determined here, is an attribute of the household rather than the housing unit. In this study additional standard units needed both for rehousing and for maintenance of vacancy rates were classified on the basis of the income and size of the households which could appropriately use them. Thus references in this chapter to households potentially eligible for subsidized housing are to households which could appropriately use additional standard units of given rent or value ranges and sizes; they are not precisely equal to estimates of those households in need of housing who could potentially qualify for subsidized units.

Rental Units

Recognizing all of the possible exceptions, the potential for utilizing additional public or subsidized low- and moderate-income rental units -- as of 1970, using 1973 income limits -- was computed for each county on the basis of the income limits set by its housing authority. The income limits for Sec. 236 housing are 135 percent of those for public low-rent housing. The nine distributions were combined to produce the estimated potential need for subsidized housing in the Bay Area as shown in Table 14.

The adjusted-income limits for Sec. 236 housing were converted to gross-income limits on the basis of the relations between adjusted incomes and gross incomes, by number of bedrooms, for occupants of 57 Sec. 236 projects in the region. Potentially eligible households were identified as those in rent ranges equivalent to 24 percent of the gross-income limits or less. When the gross rent needed in private nonsubsidized housing corresponding to the Sec. 236 income limit fell within a range, the range was counted if more than half of the range fell below the limit figure.

Since for all nine counties the limit figure for 4-or-more bedroom units was in the \$200 or more range, it was arbitrarily decided to count half of the cases in this group as potentially eligible for low-rent public or Sec. 236 housing. For the two counties where the limit figure for 3-bedroom units was also in the \$200 or more range, one-third of the cases were counted as potentially eligible.

Each county distribution of additional standard rental units needed was counted to the extent that the cases fell within the eligible rent-size categories as described in the preceding two paragraphs.

It is impossible to estimate from the Census data what proportion of cases meeting the family-size-income requirements would actually qualify for low-rent

public or Sec. 236 housing. The 261,092 households shown as potentially eligible represent 89.1 percent of the additional standard rental units needed to house appropriately those with one or more housing needs and to provide a 4.5 percent vacancy factor.

All households needing gross rents of less than \$100 in the private non-subsidized market were potentially eligible for low-rent public or Sec. 236 housing; also all those needing 2 bedrooms or more under \$150 and all those needing 3 bedrooms or more under \$200. These figures reflect the fact that Sec. 236 housing is intended to serve the market below the median rent level. Only in the case of 0-bedroom and 3-bedroom units were there any potentially eligible households in the private nonsubsidized rent range above that containing the regional median for renter-occupied units of that size -- and these represented only 3.6 percent and 3.2 percent, respectively, of all additional standard rentals needed in those sizes. As housing costs increase, a growing number of cases fall in the open-ended \$200-or-more rent range, making it difficult to describe this group as precisely as the others.

Again, it must be emphasized that Table 14 is not an estimate of additional public and subsidized low- and moderate-income rental units needed, but only the distribution of those households for whom the additional standard units needed would be appropriate, who were also potentially eligible for the subsidized programs as of 1970, using 1973 income limits.

TABLE 15.

ESTIMATED POTENTIAL NEED FOR SEC. 235
HOUSING, BY VALUE AND NUMBER OF BEDROOMS: SAN FRANCISCO BAY AREA, 1970

Value	TOTAL ²	Number of Bedrooms				
		0-1	2	3	4	5 or more
Less than \$5,000	133	21	18	22	22	50
\$5,000-\$9,999	682	94	133	282	127	46
\$10,000-\$14,999	2,838	110	332	1,189	789	418
\$15,000-\$19,999	6,260	45	114	2,592	2,625	884
\$20,000-\$24,999	4,386	0	0	0	3,080	1,306
\$25,000-\$34,999	0	0	0	0	0	0
\$35,000 or more	0	0	0	0	0	0
No value given						
TOTAL ²	14,299	270	597	4,085	6,643	2,704

1. See p. 51 for derivation of these figures.

2. Because of rounding of figures in inflating from sample data, some row and column totals do not equal the sum of the numbers in their respective rows or columns.

Sale Units

In the case of sale housing and the needs of owner-occupant households, the estimates of those who might be served by Sec. 235 housing are most tenuous of all. Not only are there the exceptions enumerated above, but in the case of new construction and rehabilitation of units other than those being occupied by the households, there is real question as to the owners' ability or willingness to sell his present unit and move to standard housing. It cannot even be assumed that an eligible owner would be able or willing to correct the deficiencies in the unit occupied.

For the Sec. 235 program, there are limits on the value of the housing unit as well as on the family income.

Since the need for additional standard sale housing units had been based upon the value of the unit currently occupied, two assumptions were made in determining potential eligibility:

- Owners of housing valued above the limits for Sec. 235 housing would not qualify and
- Some owner occupants of housing valued at or below the Sec. 235 limits would have incomes too high to qualify.

Therefore, only additional standard sale units needed in the value ranges within the Sec. 235 limits were considered in determining what proportion of households for whom they would be appropriate, might be eligible. The income limits for the Sec. 235 program are the same as those for Sec. 236. The adjusted-income limits were converted to gross-income limits using the same procedures as for low-rent and Sec. 236 housing.¹ When the Sec. 236 gross-income limit fell within a range used in the Census tabulations, the range was counted if more than half of the range fell below the limit figure. For each value-size category, the percent of cases in the universe of owner-occupied units below the income limit was calculated and the percentage applied to the number of standard sale units needed.

On the theory that HUD subsidies might in the future be available for the rehabilitation of existing housing, no lower limits were established for the value of additional standard housing which might be provided in this way.

It is impossible to estimate from the Census data what proportion of cases meeting the family-size-income requirements would actually qualify for Sec. 235 housing. The 14,299 households shown in Table 15 as potentially eligible represent 19.9 percent of the additional standard sale units needed to house appropriately those with one or more housing needs and to provide a 1.0 percent vacancy factor.

1. See p. 48 above.

The proportion of owners potentially eligible for Sec. 235 housing tended to decrease with the value of the unit occupied -- even among those with homes valued less than \$20,000, where none were excluded because the value exceeded the maximum price for Sec. 235 housing:

Less than \$5,000	72.2 percent
\$5,000 - \$9,999	75.0 percent
\$10,000 - \$14,999	68.5 percent
\$15,000 - \$19,999	55.6 percent

Similarly, the proportion of owners potentially eligible for Sec. 235 housing decreased with size of unit, even among those with 4 or more bedrooms, where the maximum sale value was higher and thus brought owners of homes in an additional value range into the calculation:

0 - 1 bedroom	42.4 percent
2 bedrooms	39.3 percent
3 bedrooms	31.2 percent
4 bedrooms	23.4 percent
5 or more bedrooms	9.6 percent

The apparent usefulness of subsidized housing is thus revealed to be smaller for meeting the needs of owners than it is for renters. Whereas the income limits for Sec. 236 housing were generally about the median for the universe of renter households, the combination of income limits and maximum values for Sec. 235 housing resulted in only one-fifth of the additional sale housing needed being potentially eligible for subsidy. Moreover, it would appear that only about one-tenth of the additional 5-or-more bedroom units needed could be provided through subsidies.

It must be emphasized that Table 15 is not an estimate of additional subsidized sale housing units needed, but only the distribution of those households for whom the additional standard units needed would be appropriate, who were also potentially eligible for Sec. 235 housing as of 1970, using 1973 income and sale price limits.

APPENDIX A

Methodology

This appendix contains descriptions of the specific sources of the data used and the procedures used to determine the distributions of each type of housing unit or household mentioned in calculating housing need. In each case the Fourth Count sample data were adjusted to the 100 percent count totals (Second Count).

Information on the computer programs used in the analysis is available on request from the Association of Bay Area Governments.

Renter-Occupied Universe (Table 1)

The distribution of renter-occupied units, by gross rent and number of bedrooms, was derived from Tabulation 130 of the Fourth County Housing tapes. Since Tabulation 130 does not include one-family houses on a place of 10 acres or more, the figures for this category were based on the difference between the combined number-of-bedrooms totals (for "With all plumbing facilities" and "Lacking one or more plumbing facilities") of Tabulation 144 and the corresponding totals in Tabulation 130.

Owner-Occupied Universe (Table 7)

The distribution of owner-occupied units, by value and number of bedrooms, was derived from Tabulation 121. This tabulation did not include mobile homes or trailers, units in cooperatives and condominiums, or one-family houses on 10 acres or more or with a commercial establishment or medical office on the property. Therefore, the figures for this category -- "No value given" -- were based on the difference between the corresponding number-of-bedrooms totals of Tabulation 27 and Tabulation 121. The numbers in the subgroups under "No value given" were based on Tabulation 134, combining subtotals for "With all plumbing facilities" and "Lacking one or more plumbing facilities" in each case. "Other one-family" represents the difference between "1 unit" in Tabulation 134 and the grand total in Tabulation 121.

Physically Substandard (Tables 2, 3, 8, 9)

Census items relating to plumbing, structural characteristics and equipment, fuels and appliances were examined in the search for indicators of physical substandardness. Two measures were selected:

- Lacking one or more plumbing facilities (hot piped water, flush toilet for this household only, bathtub or shower for this household only), and
- Heating equipment consisting of room heaters without flue; fireplaces; stoves or portable heaters or not heated.

Because the Census does not provide cross tabulations of these indicators by rent or value and number of bedrooms, the estimates had to be derived by use of other tabulations.

The allocation of renter-occupied units lacking one or more plumbing facilities to rent-size categories (Table 2) was made by distributing the row totals (gross rent, from Tabulation 123) by the column totals (number of bedrooms, from Tabulation 144). The difference between the two tabulations was identified as "One-family houses on a place of 10 acres or more." Each row total was calculated as a percentage of the total in Tabulation 123; likewise each column total, as a percentage of the total in Tabulation 144. These percentages were then cross-multiplied to give a percentage for each cell except those in the row for "One-family houses on a place of 10 acres or more." Each of these cell percentages was multiplied by the 100 percent count total for the universe of "Paying cash rent" and "Without payment of cash rent" housing units lacking one or more plumbing facilities to fill in those cells of the matrix. The row total for the "One-family houses on a place of 10 acres or more" was taken from the Second Count and distributed among sizes according to the column-total percentages.

The allocation of owner-occupied units lacking one or more plumbing facilities to value-size categories (Table 8) was made in the same way by distributing the row totals (value, from the differences between Tabulations 52 and 53, with value ranges combined to match those in Tabulation 121) by the column totals (number of bedrooms, from Tabulation 143). The difference between the two tabulations was identified as "No value given." This category includes mobile homes, trailers, units in structures containing two or more housing units, one-family houses on 10 acres or more or with a commercial establishment or medical office on the property. The numbers in the sub-groups under "No value given" were based on Tabulation 134. "Other one-family" represents the difference between "1 unit" in Tabulation 134 and the total units for which value was tabulated (Tabulation 52 minus Tabulation 53).

Because of the problems resulting from the need to develop these distributions, less reliance can be placed on the figures for individual rent- or value-size categories than on the row and column totals. In a few instances more cases are shown than appear in the corresponding cell of the renter-occupied universe matrix. These cases are eliminated in the estimate of total renter-occupant households in need of housing.

The distribution of households in units with all plumbing facilities but with "substandard" heating equipment by rent- or value-size categories (Tables 3 and 9, respectively) reflects the assumptions which were made:

- Units with all plumbing facilities but with "substandard" heating equipment would rent or sell for less than the median figure for units of their size, and
- The units with this deficiency would be distributed evenly among the rent or value categories below the median for each size.

Because of the assumption about below-median rents and values, it was impossible to allocate any cases to the renter-occupied categories "Without payment of cash rent" and "One-family houses on a place of 10 acres or more" (where the Census does not provide data on rents paid) or to the owner-occupied category "No value given." As a result, there is probably a slight over-count in the "Paying cash rent" and "Value" categories.

The median rent for each unit size was computed from the values for "Paying cash rent" in the renter-occupied universe (Table 1). The median values for owner-occupied units, by size, were similarly computed from the owner-occupied universe (Table 7). A rent or value category was counted as below the median if all or more than half of its range fell below the median for its size.

The percent of below-median-rent units which had "substandard" heating equipment was computed by dividing the figure from Tabulation 12 by the total number of below-median-rent units. The resulting percentage was applied to all the below-median-rent categories in the renter-occupied universe (Table 1) to derive the distribution of renter-occupant households in units with all plumbing facilities but with "substandard" heating equipment.

The same procedures were followed for owner-occupants, using the units for which value was given in the owner-occupied universe (Table 7) and data from Tabulation 12.

The use of these two measures (lacking one or more plumbing facilities, "substandard" heating equipment) to estimate substandardness undoubtedly results in an under-count. There remain housing units with all plumbing facilities and heating equipment other than the types listed above, which would be found upon inspection to have other deficiencies or to be in such a state of disrepair as to be considered substandard.

Overcrowded (Tables 4, 10)

Households in units with 1.01 or more persons per room were classed as "overcrowded." In developing the estimates it was assumed that units with 1.01 or more persons per room were distributed evenly throughout the rent- and value-size categories of their respective universes.

The proportion of households which were "overcrowded" was calculated on the basis of Tabulation 60, combining figures for units with all plumbing facilities and for those lacking one or more plumbing facilities. The total number of "overcrowded" renter-occupied units was divided by the total units in the renter-occupied universe (Table 1), and the resulting percentage applied to each category in that universe to produce the distribution of "overcrowded" renter-occupant households (Table 4).

The same general procedure was used to derive the distribution of "overcrowded" owner-occupant households (Table 10), using Tabulation 60 and Table 7.

Involuntary "Doubling"

The phenomena of communes, extended families prevailing among certain ethnic groups, and other instances of voluntary "doubling" make it difficult to estimate how many households would split up if suitable housing in the appropriate rent or value range could be found.

The Census of Population gives the number of subfamilies by type and, for each one, the number of own children under 18 years old (Tabulation 46). It was assumed that husband-wife subfamilies were more likely to be doubling for lack of suitable housing within their means, while other subfamilies with male heads and subfamilies with female heads were more likely to be doubling for other reasons, e.g. companionship, child-care, care of elderly or handicapped.

Household members not related to the head are classified by the Census as lodger (roomers, boarders, lodgers, including foster children), resident employee (including the employee's relatives living in the housing unit) and a residual category, friend or partner, which is often combined with lodgers in the tabulations. There was no basis on which to identify a portion of the unrelated individuals who were voluntarily "doubling." Therefore, no estimates were made of these cases.

Overpaying (Table 5)

A number of formulae have been advanced for determining what a household can afford to pay for housing. Proportions vary by local custom, by age of the householder and by income level.

Owner-occupant households. The Brooks amendment establishing a maximum of 25 percent of adjusted income for rent in low-rent public housing seems the most pertinent to the ABAG purposes in assessing need. The nearest approximation to this in the Census is Gross Rent as Percentage of Income (Tabulation 128), counting 25 percent or more as "overpaying." This will result in a slight under-count because the percentage is based on total rather than adjusted income. ~~It was assumed that the percent paying 25 percent or more of income was constant for all unit sizes in a given rent range.~~

In order to eliminate those who voluntarily pay more than 25 percent of their incomes, e.g. to obtain special amenities, for each named place with population of 2,500 or more the distribution of units needed by households paying 25 percent or more of income for gross rent was compared with the distribution of "standard" rental vacancies.¹ The number of units needed was then reduced by the number of available "standard" vacancies in the corresponding rent-size class. It is likely that this procedure overestimates the number of households voluntarily paying 25 percent or more of income for rent.

Owner-occupant households. The Census does not provide a similar measure of the proportion of income spent for housing in owner-occupied units. Data on the value of the unit are current (1970) and do not necessarily reflect the

1. See explanation below, pp. A-11-12.

value at the time of purchase, mortgage terms, tax rates, etc., which relate to the owner's present ability to afford the unit. Therefore, no estimate was made of the number of owner occupants paying 25 percent or more of their incomes for housing. Owner-occupant households which were overpaying in "physically substandard" and/or "overcrowded" units were counted under those headings.¹ Those owners who were neither in "physically substandard" units nor "overcrowded" were not likely to be able and/or willing to sell their homes in order to take advantage of lower housing costs even if available.

Total Households in Need of Housing (Tables 6, 11)

The regional distributions of total households in need of housing for renter occupants and owner occupants are summations of the corresponding total-need distributions for each of the nine Bay Area counties. There are differences between the entries in some total-need cells and the numbers which would have resulted had the adjustments for overlap been applied directly to the regional data.

Households in renter-occupied units in need of housing (Table 6). For each county the following distributions were combined:

- Households in units lacking one or more plumbing facilities (Table 2),
- Households in units with all plumbing facilities, but with "substandard" heating equipment (Table 3),
- "Overcrowded" households in units with all plumbing facilities (using data from Tabulation 60 and Table 1 in the same fashion as described on p. A-3 above) in excess of the number of units with "substandard" heating (Table 3), on a cell-by-cell basis, and
- Overpaying¹ households (Table 5) up to, but not exceeding the number of "physically standard" units (Table 1 minus the sum of Tables 2 and 3), on a cell-by-cell basis.

Households in owner-occupied units in need of housing (Table 11). For each county the following distributions were combined:

- Households in units lacking one or more plumbing facilities (Table 8),
- Households in units with all plumbing facilities, but with "substandard" heating equipment (Table 9), and
- "Overcrowded" households in units with all plumbing facilities (using data from Tabulation 60 and Table 7 in the same fashion as described on p. A-3 above) in excess of the number of units with "substandard" heating (Table 9), on a cell-by-cell basis.

¹. However, in calculating what would be needed to rehouse these households appropriately, they were all assumed to need units of the same value as the ones they were occupying.

Standard Units Needed

Because "overcrowded" and "overpaying" households would need, respectively, larger and less expensive units, it was necessary to determine the characteristics of units which would rehouse them appropriately according to the standards being applied.

Units needed by "overcrowded" renter-occupants. Since the Census provides a cross-tabulation of renter-occupant households by gross rent and number of rooms occupied (Tabulation 124), it was possible to compute directly the estimated range of number of persons in each rent-size category. The distribution of the cases of one-family houses on 10 acres or more was derived from the difference between the distributions in Tabulation 48 and Tabulation 124.

The percentages for 1.01 - 1.50 persons per room and for 1.51 or more persons per room were calculated separately in a fashion similar to that for the "overcrowded" percentage for Table 4.¹ Each percentage was applied separately to the distribution of total renter-occupied units by gross rent and number of rooms, producing distributions of units needed by renter-occupants with 1.01 - 1.50 persons per room and 1.51 or more persons per room, respectively.

The number of persons in the household was determined by multiplying the number of rooms by the number of persons per room. This provided a range in household size corresponding to the range of persons per room. It was assumed that the household would need one bedroom for each two persons or fraction thereof. Assuming that the household sizes were distributed evenly throughout each range, it was possible to derive the number of bedrooms needed:

Persons per Room (1)	Rooms Occupied (2)	Number of Persons (3)	Bedrooms Needed (4)
1.01 - 1.50	1 - 2	1+ - 3	50% - 1 50% - 2
1.51 or more	1 - 2	1.5+ - 3	29% - 1 71% - 2
1.01 - 1.50	3	3+ - 4.5	67% - 2 33% - 3
1.51 or more	3	4.5+	100% - 3
1.01 - 1.50	4	4+ - 6	100% - 3
1.51 or more	4	6+	100% - 4 or more
1.01 - 1.50	5	5+ - 7.5	40% - 3 60% - 4 or more
1.51 or more	5	7.5+	100% - 4 or more
1.01 - 1.50	6 or more	6+ - 9+	100% - 4 or more
1.51 or more	6 or more	9+	100% - 4 or more

The distribution of units needed, by gross rent and number of bedrooms, was derived by applying the adjustments indicated in column (4) to the two distributions by gross rent and number of rooms, on a cell-by-cell basis.

T. See p. A-3, above.

Units needed by "overcrowded" owner occupants. Because the Census did not provide a cross-tabulation of owner-occupied units by value and number of rooms, it was necessary to construct a matrix on the basis of a comparison of the distributions by rooms (Tabulation 48) and by bedrooms (Tabulation 143, combining both plumbing categories) in the universe of owner-occupied units. A formula was developed which, applied to the distribution from Tabulation 143 produced the distribution in Tabulation 48 (combining the categories of 1 room, 2 rooms and 3 rooms, and those above 6 rooms). Thereafter, the derivation of the distribution of units needed was similar to the procedures used for "overcrowded" renter occupants:

Persons per Room (1)	Rooms Occupied (2)	Number of Persons (3)	Bedrooms Needed (4)
1.01 - 1.50	1 - 2 - 3	1+ - 4.5	29% - 1 57% - 2 14% - 3
1.51 or more	1 - 2 - 3	1.5+ - 4.5	15% - 1 59% - 2 26% - 3
1.01 - 1.50	4	4+ - 6	100% - 3
1.51 or more	4	6+	100% - 4
1.01 - 1.50	5	5+ - 7.5	40% - 3 60% - 4
1.51 or more	5	7.5+	100% - 4
1.01 - 1.50	6	6+ - 9	67% - 4 33% - 5 or more
1.51 or more	6	9+	100% - 5 or more
1.01 - 1.50	7 or more	7+ - 10.5+	26% - 4 74% - 5 or more
1.51 or more	7 or more	10.5+	100% - 5 or more

Units needed by renter occupants "involuntarily overpaying." In order to determine what these renters should be paying, it was necessary to derive the income ranges from the rents paid, compute 24 percent of the extremes of each income range and allocate the results to the ranges used by the Census (assuming an even distribution throughout each range):

<u>Current Gross Rent</u>	<u>Rent as Percent of Income</u>	<u>Income Range</u>	<u>Rent Needed</u>
Less than \$40	25 - 34	Less than \$118 - Less than \$160	100% - Less than \$40.
	35 or more	Less than \$114	100% - Less than \$40
\$40 - \$59	25 - 34	\$118 - \$236	35% - Less than \$40 65% - \$40 - \$59
	35 or more	\$114 - \$169	80% - Less than \$40 20% - \$40 - \$59
\$60 - \$79	25 - 34	\$176 - \$316	44% - \$40 - \$59 56% - \$60 - \$79
	35 or more	\$171 - \$226	100% - \$40 - \$59
\$80 - \$99	25 - 34	\$235 - \$396	4% - \$40 - \$59 48% - \$60 - \$79 48% - \$80 - \$99
	35 or more	\$229 - \$283	21% - \$40 - \$59 79% - \$60 - \$79
\$100 - \$149	25 - 34	\$294 - \$596	9% - \$60 - \$79 26% - \$80 - \$99 65% - \$100 - \$149
	35 or more	\$286 - \$426	25% - \$60 - \$79 56% - \$80 - \$99 19% - \$100 - \$149
\$150 - \$199	25 - 34	\$441 - \$796	44% - \$100 - \$149 56% - \$150 - \$199
	35 or more	\$429 - \$569	100% - \$100 - \$149
\$200 or more	25 - 34	\$588 or more - \$800 or more	1% - \$100 - \$149 13% - \$150 - \$199 86% - \$200 or more
	35 or more	\$571 or more	2% - \$100 - \$149 13% - \$150 - \$199 85% - \$200 or more

As described above, this array of units needed to rehouse renter-occupant households paying 25 percent or more of income for gross rent was then reduced by the number of "standard" vacancies available in each corresponding rent-size category¹ for each city or named unincorporated place with 2,500 or more population. Each county distribution was reduced by the aggregate of these city and named-place reductions within its territory. The residual county figure was not reduced because it could not be assumed that the vacancies, being located in areas of sparse development and spread over a large territory, would be near enough to constitute real alternatives for the households identified as "overpaying" for rent.

Units needed by renter occupants in "net physically substandard units." The units needed by those renters in "physically substandard" units who were also "overcrowded" or "involuntarily overpaying" have been described in the context of the two preceding sections. It was necessary to eliminate these cases from the total households in "physically substandard" housing to determine how many could be appropriately rehoused in standard units of the same rent and size as the ones they were occupying.

The households in units lacking one or more plumbing facilities (Table 2) were added to those in units with all plumbing facilities but having "substandard" heating equipment (Table 3) to produce the distribution of households in "physically substandard units."

"Overcrowded" households in units lacking one or more plumbing facilities (based on use of data from Tabulation 60 and Table 1 in a fashion similar to that described on p. A-3, above) and those in units with all plumbing facilities but having "substandard" heating equipment² (up to but not exceeding the corresponding cell value in Table 3) were combined in a distribution of households in "overcrowded physically substandard" units.

Since the "voluntarily overpaying" renters could not be identified until their current rents were translated into rents needed and compared with available "standard" vacancies, it was held impractical to reduce the distribution of "overpaying" households in units currently occupied (Table 5) to "involuntarily overpaying" in the course of identifying those in "net physically substandard units." A total of 8.7 percent of the "overpaying" renters were estimated to be "voluntarily overpaying." Since 44.2 percent of all renter-occupants were estimated to have this need, only 3.4 percent of the renter-occupant universe are involved, and the resulting underestimate of renters in "net physically substandard units" is small.

It was assumed that in most cases households "overpaying" for rent would be in "physically standard" renter-occupied units. The distribution of "physically substandard" renter-occupied units was subtracted from the renter-occupied universe distribution (Table 1) to arrive at the distribution of "physically standard" renter-occupied units. To the extent that the number of "overpaying" households (Table 5) exceeded the number of "physically standard" renter-occupied units on a cell-by-cell basis, these were assumed to be in "physically substandard" units.

1. See explanation of procedures for deriving this distribution, pp. A-11-12.
2. See p. A-5 above.

The distributions of "overcrowded" households in "physically substandard" units and "overpaying" households in "physically substandard" units were then combined and subtracted from the distribution of total households in "physically substandard units," on a cell-by-cell basis, to produce the distribution of households in "net physically substandard units." In any rent-size category where the combination of "overcrowded" and "overpaying" households in "physically substandard" units exceeded the figure for total households in "physically substandard" units, it was assumed that there had been overlap between the first two and the difference was recorded as zero.

~~Units needed by owner occupants in "net physically substandard units."~~ In the case of owners in "physically substandard" units it was only necessary to eliminate the "overcrowded" households from the distribution. The figures for households in "overcrowded physically substandard units" and total households in "physically substandard units" were developed in the same way as for renters. The distribution of households in "net physically substandard units" represented total households in "physically substandard units" minus households in "overcrowded physically substandard units." They were assumed to need standard units of the same value and size as the ones they were occupying.

Standard vacant rental units needed to allow mobility and freedom of choice. It was decided to use a vacancy factor of 4.5 percent to allow for mobility and freedom of choice in rental housing.¹ Conversely, the standard units needed for occupancy would account for 95.5 percent of the housing needed in any rent-size category:

- Units occupied by households not identified as needing housing,
- Larger units needed by "overcrowded" households,
- Less expensive units needed by households "involuntarily overpaying,"
- Units needed by households in "net physically substandard units."

1. The selection of an optimum vacancy rate that will allow for mobility and freedom of choice in the housing market is a subjective matter. This vacancy rate is for standard units, so the 4.5 percent rate would translate into a gross vacancy rate of 5 to 6 percent. Data from the San Francisco Federal Home Loan Bank (FHLB) indicates that the average gross vacancy rate for District Eleven (California, Arizona, Nevada) over the last seven or eight years has been about 5.5 percent. The FHLB feels that any apartment vacancy rate in excess of 7 percent is dangerously high and doesn't provide for "competitive balance." As a result it issues a market alert on a housing submarket if, all other things being equal, the vacancy rate exceeds 6 percent.

The distribution of units occupied by households not identified as needing housing was obtained by subtracting the following cases from the universe of renter-occupied units (Table 1):

- "Overcrowded" renter-occupied units (Table 4),
- Units occupied by households "overpaying" (Table 5),¹
- "Net physically substandard units."¹

This procedure underestimates the number of renter occupants not needing housing to the extent that the categories of "overcrowded" and "overpaying" in "standard" housing overlap, and that some "overpaying" households were doing so voluntarily.

The matrix of standard rental housing units needed for occupancy was divided by .955 to produce the total distribution which included the 4.5 percent standard rental vacancies in each rent-size category needed for mobility and freedom of choice. The distribution of standard rental vacancies needed was determined by subtracting the standard rental units needed for occupancy from the total distribution.

Additional standard rental units needed. In order to determine how many of these rental vacancies were already in existence at the time of the Census, it was necessary to estimate the number of "standard" vacant-for-rent units and convert their rents from contract rents to estimated gross rents.

The existing units which were vacant for rent were considered to be "standard" if they had all plumbing facilities and their heating equipment was steam or hot water; central warm air furnace, built-in electric units; floor, wall, or pipeless furnace; or room heaters with flue.

The procedures used to arrive at the distribution of "standard" rental vacancies were as follows. The allocation of vacant-for-rent units with all plumbing facilities to rent-size categories was made by distributing the row totals (contract rent, from Tabulation 55, consolidated into the ranges used in Tabulation 122) by the column totals (number of bedrooms, from Tabulation 144). The difference between the two tabulations was identified as "One-family houses on 10 acres or more." Each row total was calculated as a percentage of the total in Tabulation 55; likewise each column total, as a percentage of the total in Tabulation 144. These percentages were then cross-multiplied to give a percentage for each cell except those in the row for "One-family houses on a place of 10 acres or more." Each of these cell percentages was multiplied by the 100 percent count total for the universe of "Paying cash rent" and "Without payment of cash rent" housing units vacant for rent to fill in those cells of the matrix. The row total for the "One-family houses on a place of 10 acres or more" was taken from the Second Count and distributed among sizes according to the column-total percentages.

1. Since the "voluntarily overpaying" renters could not be identified until their current rents were translated into rents needed and compared with available "standard" vacancies, it was held impractical to reduce this distribution of households "overpaying." As explained on p. A-9, above, this results in a small underestimate of "net physically substandard units."

The total units with "substandard" heating equipment (from Tabulation 12) was then divided by the total vacant below-median¹ units with all plumbing facilities, and the resulting percentage applied to the distribution of vacant below-median units to produce the distribution of vacancies with all plumbing facilities but "substandard" heating equipment. This distribution was subtracted from the matrix of rental vacancies with all plumbing facilities to produce the distribution of "standard" rental vacancies. Just as the use of the two measures, plumbing facilities and heating equipment, tends to underestimate the incidence of physical substandardness,² so these procedures will overestimate the number of standard vacancies.

Since only contract rents are known for rental vacancies, it was necessary to estimate the corresponding gross rents. This was done on the basis of a comparison of the distributions of contract rents (Tabulation 122) and gross rents (Tabulation 130) for the renter-occupied universe. As in the case of the conversion of number of bedrooms to number of rooms in owner-occupied units,³ a formula was developed which, applied to the distribution of contract rents in Tabulation 122 produced the distribution of gross rents in Tabulation 130. This formula was then applied to the matrix of "standard" rental vacancies and the results regrouped into ranges used by the Census.

Because "overcrowded" and "overpaying" occupants of "standard" units would be vacating them when they moved to appropriate quarters, these would also be available for meeting needs. Therefore, the following distributions were added to the distribution of "standard" units vacant for rent:

- "Standard" rental units occupied by "overcrowded" households,
- "Standard" rental units occupied by "overpaying" households.

These distributions were determined in a manner paralleling the determination of "overcrowded" and "overpaying" households in substandard units, described on p. A-9, above. Since the "overpaying" figure had not been corrected to eliminate "voluntarily overpaying," this results in a small overestimate of standard units available.

Finally, the distribution of additional standard rental units needed to meet the needs of the renter-occupant households and provide a 4.5 percent vacancy factor in 1970 was determined by subtracting the combined distribution of "standard" units vacant for rent or available in the process of rehousing "overcrowded" and "overpaying" households from the combined distribution of:

- Larger units needed by the "overcrowded" households,
- Less expensive units needed by the households "involuntarily overpaying,"
- Units needed by households in "net physically substandard units,"
- Units needed for a 4.5 percent vacancy factor.

1. See explanation of estimating renter-occupied units with all plumbing facilities but with "substandard" heating equipment, pp. A-2-3. The median rents for occupied units were used with vacant-for-rent-units of the corresponding size, also.

2. See p. A-3, above.

3. See p. A-7, above

It is important to emphasize that this report makes no judgment as to what proportion of these additional units should be new construction or to what extent they could be supplied through rehabilitation of the units identified as "physically substandard." This is not effective demand.

Standard vacant-for-sale units needed to allow mobility and freedom of choice. A 1 percent vacancy factor was selected for use with units that were vacant for sale.¹ The procedure for determining the distribution of units needed was similar to that for vacant-for-rent units needed.

Standard units needed for occupancy by the following groups would constitute 99 percent of the housing needed in any value-size category:

- Units needed by households not identified as needing housing,
- Larger units needed by "overcrowded" households,
- Units needed by households in "net physically substandard units."

The sitribution of units occupied by households not identified as needing housing was obtained by subtracting the following cases from the universe of owner-occupied units (Table 7):

- "Overcrowded" owner-occupied units (Table 10),
- "Net physically substandard units."

The matrix of standard sale units needed for occupancy was divided by .99 to produce the distribution which included the 1 percent standard sale vacancies in each value-size category needed to provide mobility and freedom of choice. The distribution of standard for-sale vacancies needed was determined by subtracting the standard sale units needed for occupancy from the total distribution.

Additional standard sale units needed. The procedure for estimating the distribution of "standard" vacant-for-sale units was similar to that for estimating the "standard" rental vacancies except that it was not necessary to convert the values as it had been for contract rents.

The value-size distribution of vacant-for-sale units with all plumbing facilities was estimated in the same way as for vacant-for-rent units,² by distributing the row totals (value, from Tabulation 53, combining the ranges into those used in Tables 7-11) by the column totals (number of bedrooms, from Tabulation 145). The difference between the two tabulations was identified as "No value given."

1. As pointed out with reference to rental vacancies, the choice of an optimum rate is a subjective one. Since this vacancy rate is for standard units, the 1 percent rate would translate into a gross vacancy rate of 1.5 to 2 percent. The FHLB data show that the average gross vacancy rate for the three-state District over the last seven or eight years has been about 1.9 percent. The FHLB feels that any vacancy rate for sale housing in excess of 2.5 percent is dangerously high.

2. See p. A-11, above.

The "standard" for-sale vacancies were estimated by the same methods as those described for "standard" rentals,¹ using data from Tabulation 12 and the median values for owner-occupied units of each corresponding size. Again, this method overestimates the number of standard vacancies.

As in the case of rental vacancies, it was assumed that the "overcrowded" occupants of "standard" units would be moving to appropriate quarters, thus providing additional units in the stock of "standard" vacancies. Therefore this distribution² was added to the "standard" vacant-for-sale units.

Finally, to determine the number of additional standard sale units needed, this combined distribution of "standard" units vacant for sale or available in the process of rehousing "overcrowded" households was subtracted from the combined distribution of:

- Larger units needed by the "overcrowded" households,
- Units needed by households in "net physically substandard units,"
- Units needed for a 1 percent vacancy factor.

Again, it is important to emphasize that this report makes no judgment as to what proportion of these additional units should be new construction or to what extent they could be supplied through rehabilitation of the units identified as "physically substandard." This estimate does not represent effective demand.

Households Potentially Eligible for HUD-Subsidized Housing

The complexities of computer programming made it necessary to approach the problem of the potential use of subsidies in terms of additional standard units needed. It was not possible to distinguish for any one unit whether it would be needed for rehousing a household or to maintain the desired vacancy rate.

Technically, eligibility as determined here, is an attribute of the household rather than the housing unit. In this study additional standard units needed both for rehousing and for maintenance of vacancy rates were classified on the basis of the income and size of the households which could appropriately use them. Thus references in this chapter to households potentially eligible for subsidized housing are to households which could appropriately use additional standard units of given rent or value ranges and sizes; they are not precisely equal to estimates of those households in need of housing who could potentially qualify for subsidized units.

1. See p. A-12, above.
2. See p. A-12, above.

Households Potentially Eligible for HUD-Subsidized Housing

The complexities of computer programming made it necessary to approach the problem of the potential use of subsidies in terms of additional standard units needed. It was not possible to distinguish for any one unit whether it would be needed for rehousing a household or to maintain the desired vacancy rate.

Technically, eligibility as determined here, is an attribute of the household rather than the housing unit. In this study additional standard units needed both for rehousing and for maintenance of vacancy rates were classified on the basis of the income and size of the households which could appropriately use them. Thus, references in this chapter to households potentially eligible for subsidized housing are to households which could appropriately use additional standard units of given rent or value ranges and sizes; they are not precisely equal to estimates of those households in need of housing who could potentially qualify for subsidized units.

Renter households. The distribution of households potentially eligible for public low-rent or Sec. 236 housing was established by determining the limits for Sec. 236 housing which are higher. No effort was made to allocate cases between the two programs.

For each county, the adjusted-annual-income limits for Sec. 236 housing for each family size through ten were obtained from the San Francisco Area Office for the Department of Housing and Urban Development. These were assigned, by HUD, to unit sizes as follows:

1	-	0 bedroom
2	-	1 bedroom
3)	-	2 bedrooms
4)	-	
5)	-	3 bedrooms
6)	-	
7)	-	4 bedrooms
8)	-	
9)	-	5 bedrooms
10)	-	

The income limits for Sec. 236 housing are 135 percent of the limits for low-rent public housing. In this study, for the sake of simplicity, the county housing authority figures were used for the entire county although city housing authorities within that area might have different limits.

The adjusted-income figure was converted to gross income by applying the mean adjustment factor, by unit size, for the region. This factor was derived from an analysis of adjusted- and gross-income figures for tenants in 57 Sec. 236 projects in the San Francisco Bay Area. They are as follows:

0 bedroom	-	1.0310
1 bedroom	-	1.0214
2 bedrooms	-	1.0925
3 bedrooms	-	1.2066
4 bedrooms	-	1.2943
5 bedrooms	-	1.4688

The maximum monthly gross rent which these households should pay in private nonsubsidized housing was determined by taking 24 percent of 1/12 times the gross-annual-income limit. Households in a given monthly-gross-rent range were counted as potentially eligible for HUD-subsidized housing if all or more than half of the range was below the maximum rent corresponding to the income limit. In San Mateo County the income limits for the two family sizes assigned to 2-bedroom units fell in adjoining ranges; therefore only half the cases in the higher range were counted eligible. When the maximum gross rent fell in the \$200 or more range, one-third of the number of 3-bedroom households were counted eligible and one-half of the 4-or-more bedroom households.

The county figures for additional standard rental units needed (or appropriate shares thereof) were entered in the cells of the matrix for monthly-gross-rent ranges below the eligibility limits. These nine county distributions were summed to produce the regional distribution of households potentially eligible for public low-rent or Sec. 236 housing -- as of 1970, using 1973 income limits.

Owner households. The income limits for Sec. 235 housing are the same as those for Sec. 236 housing. There are also limits on the value of the home financed under Sec. 235. It was assumed that owner-occupants of housing valued above those limits would be ineligible, regardless of income.

In relating the Census data to the FHA requirements, rather than make further assumptions about the distributions within the value ranges, the cut-off points chosen were the tops of ranges nearest to the FHA value limits as of July 1, 1973. Therefore, the categories below \$20,000 were used for units having 0-1, 2 or 3 bedrooms, where the actual limit is \$21,000; the categories below \$25,000 were used for units with 4 or more bedrooms, where the actual limit is \$24,000.

Since some owners in homes valued at less than the limit would be over-income, it was necessary to determine the percentage distributions of incomes, by value of housing unit, for each value range under \$25,000 for each county, from Tabulation 118. The percentages for gross incomes within the eligibility limits (as determined for Sec. 236 housing, above) were applied to the corresponding cells in the distribution of additional sale units needed for the county to produce the distribution of owners potentially eligible for Sec. 236 housing -- as of 1970, using 1973 standards. The regional distribution is the summation of the nine county distributions.

GRAPHIC SUMMARY OF
DERIVATION OF TABLES 1-13

Table 1 Estimated Total Renter-Occupied Units

Category	Estimated Total Renter-Occupied Units
Total	1,234,567
Single-family houses	1,000,000
Multifamily units	234,567
Mobile homes	0

Table 2 Estimated Renter-Occupied Units Lacking One or More Plumbing Facilities

Category	Estimated Number of Renter-Occupied Units Lacking One or More Plumbing Facilities
Total	1,234,567
Single-family houses	1,000,000
Multifamily units	234,567
Mobile homes	0

Topic 3 Estimated Renter Occupied Units with all Plumbing Facilities but with "Substandard" Heating Equipment

25

Table 4 Estimated Renter-Occupied Units with 1.01 or more Persons per Room

Table 5 Estimated Renter-Occupied Units where Gross Rent is 25 Percent or More of Income

A horizontal strip of paper with a repeating pattern of small black dots. The strip is positioned horizontally across the middle of the page, spanning from approximately x=107 to x=988.

Table 6 Estimated Total Renter-Occupant Households in Need of Housing

This image shows a long, narrow, light-colored rectangular panel, likely made of wood or a similar material. It is framed by a dark grey border with a fine, regular dot pattern. The panel itself is plain and unadorned.

Table 12. Estimated Additional Standard Rental Units Needed

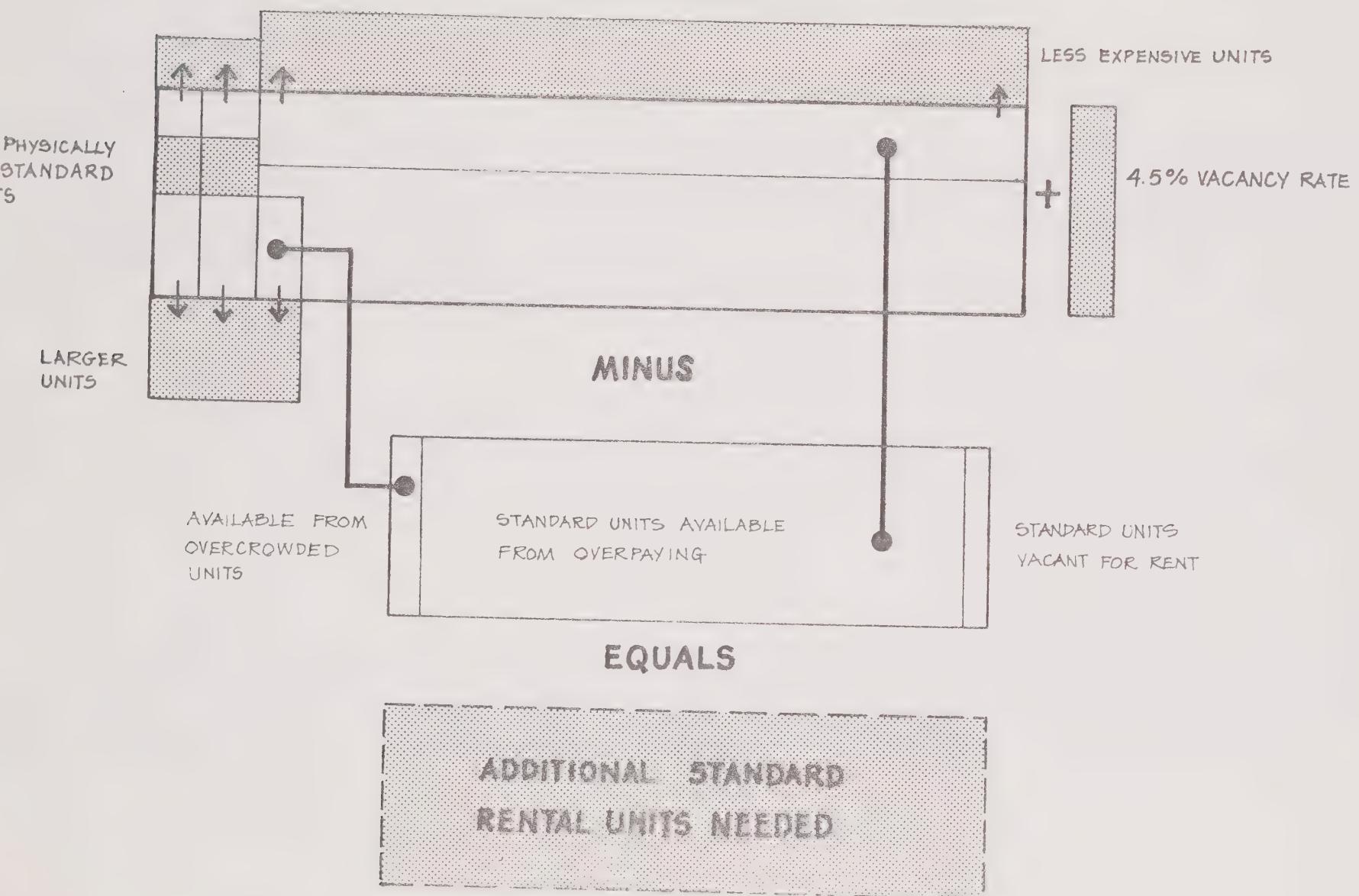


Table 7 Estimated Total Owner-Occupied Units

Category	Estimated Total Owner-Occupied Units
Total	1,234,567
Single-family houses	1,089,345
Multifamily units	145,222
Mobile homes	100,000

a - v

Table 8 Estimated Owner-Occupied Units Lacking One or More Plumbing Facilities

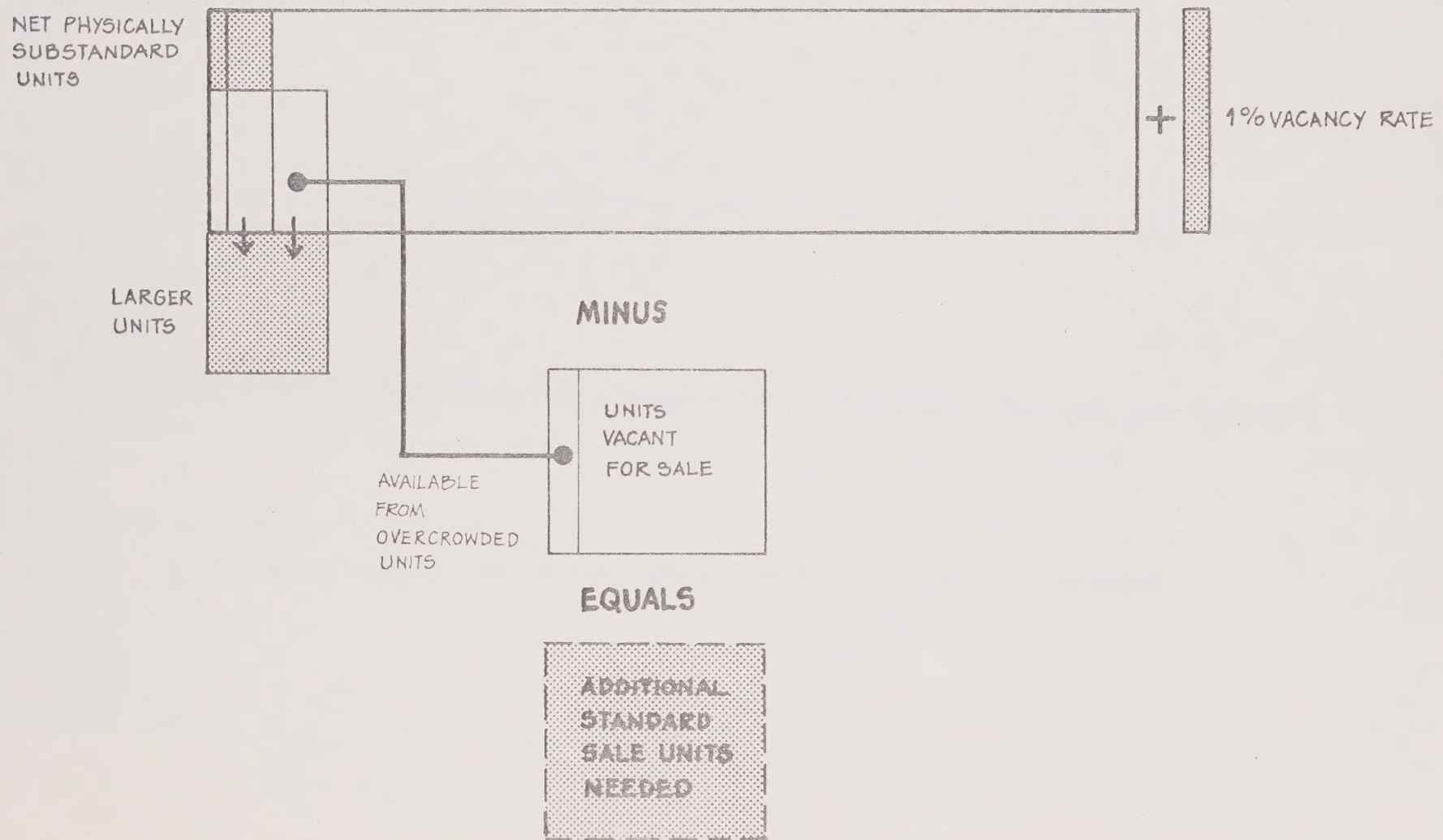
Category	Estimated Number of Units Lacking One or More Plumbing Facilities
Total	1,234,567
Single-family houses	1,089,345
Multifamily units	145,222
Mobile homes	100,000

Table 9 Estimated Owner-Occupied Units with All Plumbing Facilities but with "Substandard" Heating Equipment

Table 10 Estimated Owner-Occupied Units with 1.01 or More Persons per Room

Table 11 Estimated Owner-Occupant Households in Need of Housing

Table 13 Estimated Additional Standard Sale Units Needed



U.C. BERKELEY LIBRARIES



C124924539



ASSOCIATION OF BAY AREA GOVERNMENTS BERKELEY, CALIFORNIA